The Ecosystem Model Mandate for a Comprehensive United States Ocean Policy and Law of the Sea

MARTIN H. BELSKY*

I. INTRODUCTION

More than twenty years ago, the United States Congress recognized that this nation had "to give serious and systematic attention to our marine environment and to the potential resources of the oceans."[1] It, therefore, established a special Presidential Commission on Marine Science, Engineering and Resources to "formulate a comprehensive, long-term, national program for marine affairs designed to meet present and future national needs in the most effective possible manner."[2]

In 1969, that Commission, popularly called the Stratton Commission,[3] issued its report. It detailed a "plan for national action"[4] premised on a comprehensive ocean policy and program[5] with one new federal agency responsible for implementation.[6]

The Commission found that overlapping and conflicting laws and regulations and the lack of coordination among federal, state, and

* Dean and Professor of Law, Albany Law School of Union University. B.A., 1965, Temple University; J.D., 1968, Columbia University; Dip. Crim., 1969, Cambridge University.

1. COMMISSION ON MARINE SCIENCE, ENGINEERING AND RESOURCES, OUR NATION AND THE SEA vi (1969) [hereinafter STRATTON COMMISSION REPORT].

2. *Id.*

3. The Chair of the Commission was Julius A. Stratton. *Id.* at iii.

4. *Id.* at 4.

5. *Id.*

6. *Id.* at 4, 229-30. This new agency, the "National Oceanic and Atmospheric Agency," was to be "the principal instrumentality within the Federal Government for administration of the Nation's civil marine . . . programs." *Id.* at 230.

local agencies hindered our nation's ability to both protect the oceans and coasts and develop our ocean resources.[7] Moreover, to protect the environment and provide for "constructive management of the living resources of the sea," an "understanding of ecosystem dynamics" was essential.[8]

The solution had to be "comprehensive systems"[9] to regulate our coasts, to manage living and nonliving resources, and to monitor and predict environmental changes in the oceans.[10] Ocean programs and policies had to be integrated by placing the major responsibilities in one federal agency, and by providing mechanisms within that agency for coordination of the activities of other federal, state, and local agencies.[11]

In this article, I will compare the premises and recommendations of the Stratton Commission to America's national ocean policy and program today. I will then suggest that a mechanism now exists to provide for the establishment of a coordinated and integrated national ocean policy. That mechanism is the new international law requirement of comprehensive research, planning, and management for the ocean's space and resources. This comprehensive (or "ecosystem") model for ocean policy and management is binding in domestic United States law and can be implemented under existing statutes by existing federal and state agencies.[12]

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7. *See id.* at 8, 56-62; *see also id.* at 11 (laws and agency conflicts hamper fishery protection and development), 135-37 (nonliving resource development).

8. *Id.* at 173.

9. *See id.* at 15.

10. *Id.* at 96-97 (fisheries), 127 (offshore oil and gas), 15, 171 (monitoring and prediction).

State coastal zone authorities were to be established, under the guidance of a federal agency, to coordinate plans and uses and to regulate and develop coastal zones. *Id.* at 57-62. The same federal agency was to set national priorities and policies for fisheries management and protection of endangered fisheries. *Id.* at 96-97. New leasing and regulatory policies were to be established that were "geared to a rate of development reflecting all aspects of national interests." *Id.* at 127 (offshore oil); *see also id.* at 127-29 (natural gas), 135-37 (other marine minerals). A comprehensive national system was to be established to monitor and predict the changes of the sea. *Id.* at 171, 184-85.

11. *Id.* at 231.

12. This article builds on previous articles and papers by the author that explore the development of the ecosystem model of marine management. Those earlier papers argued that a new rule of international law was evolving that could mandate an ecosystem approach. *See* Belsky, *Legal Constraints and Options for Total Ecosystem Management of Large Marine Ecosystems*, in VARIABILITY AND MANAGEMENT OF LARGE MARINE ECOSYSTEMS 241 (1986) [hereinafter Belsky - 1986 AAAS]; Belsky, *Management of Large Marine Ecosystems: Developing a New Rule of Customary International Law*, 22 SAN DIEGO L. REV. 733 (1985) [hereinafter Belsky - 1985 SAN DIEGO]. Later papers indicated that the ecosystem model was, in fact, a binding rule of customary and treaty international law and that the model not only required comprehensive management, but also ecosystem based research, assessment, and monitoring. *See* Belsky, *Developing An Ecosystem Management For Large Marine Systems*, in BIOMASS AND GEOGRAPHY OF LARGE MARINE ECOSYSTEMS 443 (paper given at February 1987 AAAS Symposium) [hereinafter Belsky - 1987 AAAS]; M. Belsky, The Marine Ecosystem

Parts II and III of this article will review the history of United States ocean policy. Over the last twenty years, there has been an extraordinary growth of federal and state marine-related programs for research, management, and protection. This rapid growth has, however, been haphazard. Laws have been enacted and policies established in response to different crises and varied constituency concerns. The management and policy framework is oriented to a single purpose and often without consideration of the close interconnections between multiple offshore uses and resources.[13]

These practices have led to criticism that the United States has no ocean policy.[14] Obviously, this is not accurate. We have a "myriad of statutes that authorize scores of programs which are administered by numerous departments and agencies . . . ."[15] The problem has been, and still is, that we have no *comprehensive* ocean policy.

There has been no coordinating theme to our marine-related programs, plans, and activities. There has been no theory or model that requires those in government and those conducting ocean activities to consider the collective, cumulative, and sometimes conflicting impacts of the separate rules, policies, and actions that are focused on particular uses of the ocean space.[16]

Management Model and the Law of the Sea: Requirements for Assessment and Monitoring, Paper presented at 21st Annual Conference at the Law of the Sea Institute (Aug. 3-6, 1987) [hereinafter Belsky - 1987 LOSI]; M. Belsky, Interrelationships of Science and Law in the Management of Large Marine Ecosystems, Paper presented at the Symposium on Frontiers in Marine Ecosystem Research - AAAS (Feb. 14, 1988) [hereinafter Belsky - 1988 AAAS]; M. Belsky, Marine Ecosystem Model: The Law of the Sea's Mandate for Comprehensive Management, Paper presented at the Conference on New Developments in Marine Science and Technology: Economic, Legal, and Political Aspects of the Change, sponsored jointly by the Law of the Sea Institute and the Center for Ocean Management Studies (June 1988); *see also* Belsky, *A Still Evolving Law of the Sea* (Book Review), 17 CAL. W. INT'L L.J. 355 (1987). This article applies the new rule to America's ocean policy and indicates how the new rule mandates a comprehensive and integrated ecosystem based national ocean policy.

13. *See* Cicin-Sain & Knecht, *The Problem of Governance of U.S. Ocean Resources and the New Exclusive Economic Zone*, in MARINE TECHNOLOGY SOCIETY & INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, OCEANS '84 - EXCLUSIVE ECONOMIC ZONE SYMPOSIUM 112-13 (M. Champ ed. 1984).

"Under the present U.S. system of ocean management, no one is responsible for examining the cumulative effect of various statutes and programs. Few opportunities exist for examining the ramifications of decisions in one sector on another or for trade-offs to be made among the conflicting objectives of different programs." Belsky, *A Strategy to Avoid Conflicts*, 27 OCEANUS 19 (Winter 1984/85).

14. *See infra* text accompanying note 98.

15. UNITED STATES DEPARTMENT OF COMMERCE, U.S. OCEAN POLICY IN THE 1970'S: STATUS AND ISSUES I-1 (1978) [hereinafter COMMERCE OCEAN POLICY].

16. *See* UNITED STATES DEPARTMENT OF COMMERCE, OFFICE OF OCEAN, RESOURCE, AND SCIENTIFIC POLICY COORDINATION, OCEAN MANAGEMENT: SEEKING A

Such a coordinating theme now exists. It is the ecosystem management model. In Parts IV and V of this article, I will describe the evolution of this comprehensive approach into a binding rule of international law. As a result of scientific consensus, scholarly writings, nation-state practice, and international agreements and resolutions, international law now requires an ecosystem-based integrated approach to ocean research, planning, management, and policy. This mandate has been codified in the United Nations Convention on the Law of the Sea (UNCLOS).[17]

Part VI will then discuss the impact of the ecosystem model on United States ocean policy. Customary international law is part of our domestic law, unless specifically overridden by domestic law.[18] Thus, the model, requiring a comprehensive approach to ocean management and policy, is binding on federal and state government officials.[19] In implementing the numerous federal and state laws and regulations applying to the coastal and ocean space, government officials must exercise their discretion, jointly if necessary, to reconcile their mandates with an integrated ecosystem model. Failure to do so is a violation of federal law and redressable in the courts.

The final part of this article will demonstrate how that reconciliation can occur. Old coordinating mechanisms must be strengthened and new ones created. Interested citizens must be willing to seek judicial relief for insufficient administrative action. Funding must be made available, as necessary, to insure adequate planning and coordination of policy.

II. The History of United States Ocean Policy

Almost from the beginning of the Republic, it was recognized that the United States could only succeed as a maritime nation and that an active marine policy and program was "the inevitable offspring of moral and physical necessity."[20] Yet, until the 1930s, the federal government ocean program was limited to authorizing minimal scientific research,[21] promoting commerce, assisting navigation, and establishing a strong navy.[22]

New Perspective 56-57 (J. Armstrong & P. Ryner eds. 1980) [hereinafter Commerce Ocean Management].

17. United Nations Convention on the Law of the Sea, U.N. Doc. A/Conf. 62/121 (1982), *reprinted in* 21 I.L.M. 1245 (1982) [hereinafter UNCLOS].

18. *See infra* text accompanying notes 355-66.

19. *See infra* text accompanying notes 404-13.

20. The Federalist No. 11, at 65 (A. Hamilton) (Legal Classics ed. 1983).

21. *See* G. Mangone, Marine Policy for America: The United States at Sea 3-10 (1977).

22. Commerce Ocean Management, *supra* note 16, at 7.

A. The Early Years

International law historically allowed nations to claim sovereignty over a three-mile band adjacent to its coasts.[23] In the United States, the assumption, until the 1940s, was that this sovereignty was to be exercised by the states and not the federal government.[24] States also claimed the exclusive right to control activities in offshore waters beyond three miles,[25] with the exception of a few international arrangements for particular fish and for fisheries in particular geographic regions.[26]

Some states actively promoted activities off their coasts. In particular, there was offshore fishing, but it was generally limited to areas close to the shores.[27] There was, however, little, if any, oceanographic-related activity and minimal effort to control or regulate the exploitation of resources or the quality of the ocean space.[28]

In the late 1920s, there were indications that a heightened national and federal government interest in the oceans might eventually emerge. First, California began to exploit oil and gas resources

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23. The basis for establishment of this three-mile zone was the theory that a nation could have effective control only over the ocean space which could be reached by a shore-based cannon. The "cannon-shot" rule was later converted into a fixed distance of three miles. Many nation-states contested this limited breadth, but it seemed to be accepted as an established rule of customary international law, at least by the United States. *See* R. CHURCHILL & A. LOWE, THE LAW OF THE SEA (1983); L. SOHN & K. GUSTAFSON, THE LAW OF THE SEA IN A NUTSHELL (1984); *see also* United States v. California, 332 U.S. 19, 32-34 (1947).

24. *See, e.g.*, Mumford v. Wardell, 73 U.S. (6 Wall) 423, 435-36 (1867). In 1921, California enacted legislation to control and regulate mineral development off its coasts. The law was challenged as not being within the state's power. The California courts upheld the law. Boone v. Kingsbury, 206 Cal. 148, 273 P. 797 (1928), *cert. denied*, 280 U.S. 517 (1929). The Supreme Court of the United States refused to hear an appeal from that decision on the grounds, as suggested by *Mumford*, that no substantial federal issue was involved. Workman v. Boone, 280 U.S. 517 (1929).

25. *See* G. MANGONE, *supra* note 21, at 109-26.

26. *See* COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 7-8. There was only limited regulation by some states of offshore activities. When states did seek to control fishing, for example, they did so by "landing laws" for fish caught outside of coastal waters and then brought into a state's territorial jurisdiction, by regulation of the activities of the state's citizens, and by direct control of the activities of all fishing in the waters immediately adjacent to the coast (territorial sea). Comment, *The Fishery Conservation and Management Act of 1976: State Regulation of Fishing Beyond the Territorial Sea*, 31 ME. L. REV. 303, 306-15 (1980).

27. Ditton, Seymour, & Swanson, *Historical Aspects of Managing Coastal Resources, Coastal Resources Management: Beyond Bureaucracy and the Market* (1977), *reprinted in* M. HERSHMAN & J. FELDMAN, COASTAL MANAGEMENT: READINGS AND NOTES 15, 16 (1979).

28. COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 7; Abel, *The History of the United States Ocean Program*, in MAKING OCEAN POLICY 3 (1981).

in its offshore waters, and some developers sought assistance from the national government to establish a federal program for offshore mineral management.[29] Then, in 1927, a study sponsored by the National Academy of Sciences sought to formulate a national policy for the oceans and a comprehensive program to advance United States ocean interests.[30]

Government and public response to both initiatives was minimal. However, the Academy study did result in expansion of the number of oceanographic laboratories in the 1930s.[31] In addition, the dispute over control of the "tidelands," ocean areas adjacent to the coasts, renewed interest in the potential of the oceans for future resource exploitation.[32]

It was not until World War II that national attention was focused on the United States as an "ocean state."[33] Knowledge about the oceans was essential for national defense purposes, and new technology, like sonar, had to be perfected.[34] Military strategists argued that we needed ocean research that was interdisciplinary and involved "engineering, economic, sociological, industrial, . . . geopolitical and perhaps other considerations."[35] For these and other reasons, it was urged that more funds and effort be expended on marine research.[36]

In addition, the oceans might be a major source for living and nonliving resources.[37] Action was necessary to respond to the concern that domestic fisheries were being depleted.[38] Planning was required

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29. COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 7-8. Requests for federal permits were denied on the premise that the federal government had no jurisdiction over offshore resources. Resources within the territorial waters (three miles) of the coasts were under the sovereignty of the adjacent state. *See* Pollard v. Hagan, 44 U.S. (3 How.) 212 (1845). Resources in the open seas were *res nullius* and under no nation's sovereignty. MacRae, *Customary International Law and the United Nations' Law of the Sea Treaty*, 13 CAL. W. INT'L L.J. 181, 187, 195-96 (1983).

30. Abel, *supra* note 28, at 4.

31. As a result of the National Academy of Sciences study, the Rockefeller Foundation awarded grants to establish laboratories at Woods Hole in Massachusetts, and at the University of Washington. It also provided a grant to expand the Scripps Institution of Oceanography in California. *See* Abel, *supra* note 28, at 4.

32. During the 1930s, a conflict was emerging between the federal government and the states as to control of the resources of the ocean area adjacent to the coasts (the territorial sea). This conflict, later titled the "Tidelands Controversy," would not be finally resolved until the 1970s. *See* COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 8-10; *see also* United States v. Maine, 420 U.S. 515 (1975).

33. *See* G. MANGONE, *supra* note 21, at 17.

34. Abel, *supra* note 28, at 4-5.

35. D. BROOKS, AMERICA LOOKS TO THE SEA 177 (1984) (quoting a Navy Department report).

36. Abel, *supra* note 28, at 5.

37. See COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 8-10 for a discussion of the gradually increasing interest of the federal government in the resource potential offshore.

38. *See* Young, *The Political Economy of Fish: The Fishery Conservation and*

for the possibility that substantial mineral resources existed offshore.[39]

In 1943, Secretary of the Interior Harold Ickes proposed to President Roosevelt that a national marine resources policy study be undertaken to determine the potential of the oceans for resource development. Ickes hoped for one single federal management regime that would include all ocean resources and waters out to the edge of the continental shelf. Such a study was conducted and, as a precursor to the future history of national ocean policy, a dispute immediately arose over which, if any, federal agency would have control over a "national marine program."[40]

The final agreed proposal was to divide the ocean space. An area called "submerged lands" would cover the present territorial sea, and be under a single management regime. The ocean space beyond the submerged lands would not be under one regime, but would be managed based on the activities or individual resources involved.[41]

Though this new national policy was approved by President Roosevelt,[42] he died before he could implement the plan. It was left to President Truman to detail the new American ocean policy in two Proclamations dated September 28, 1945.[43] Proclamation Number 2667 (the Continental Shelf Proclamation)[44] asserted jurisdiction over all the mineral resources in the lands beneath the oceans, out to the end of America's continenal shelf.[45]

Proclamation Number 2668 (the Fisheries Proclamation)[46] was not so bold. It merely asserted that the United States believed it "proper" to establish zones for the conservation and protection of fishery resources. Such zones would include all areas contiguous to

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Management Act of 1976, 10 OCEAN DEV. & INT'L L. 199, 200 (1982). In fact, as early as 1937, legislation was introduced in the United States Congress that would have barred foreign fishermen from some areas offshore United States territory. Magnuson, *The Fishery Conservation and Management Act of 1976: First Step Toward Improved Management of Marine Fisheries*, 52 WASH. L. REV. 427, 428-29 (1977).

39. *See* Hollick, *U.S. Oceans Policy: The Truman Proclamations*, 17 VA. J. INT'L L. 23, 28 (1976). In 1941, the British-American Oil Co. struck oil from a platform two miles off the coast of Louisiana in the Gulf of Mexico. G. MANGONE, *supra* note 21, at 176.

40. COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 10-11.

41. *Id.* at 12.

42. *Id.* at 11.

43. *See* G. MANGONE, *supra* note 21, at 178.

44. Proclamation No. 2667, 3 C.F.R. 67 (1945).

45. Exec. Order No. 9633, 3 C.F.R. 437 (1945), *reprinted in* 59 Stat. 885 (1945), placed responsibility for leasing and management of these offshore resources under the Secretary of Interior.

46. Proclamation No. 2668, 3 C.F.R. 68 (1945).

our coasts "wherein fishing activities have been or in the future may be developed and maintained on a substantial scale." The federal government was free to regulate its own nationals in such zones and could regulate all others pursuant to treaties with the country of their nationality.[47]

Despite these Proclamations, federal involvement in research or management of offshore areas continued to be minimal. Until the mid-1950s, there were a few studies on oceanography,[48] some limited offshore oil and gas exploration in the Gulf of Mexico and the areas immediately offshore California,[49] regulation of domestic fisheries almost entirely by individual state governments,[50] and a few mostly ineffectual supranational fishery management agreements.[51]

The major ocean policy controversy and action concerned a jurisdictional dispute over the resources in the three-mile territorial sea, above the submerged lands. The states claimed the historic right to lease and manage the resources in these near-shore areas. The federal government claimed, pursuant to the Truman Proclamation, that this area was part of the Continental Shelf and thus under federal jurisdiction. This "tidelands controversy" was resolved by Congress when, in 1953, it enacted the Submerged Lands Act and the Outer Continental Shelf Lands Act.[52]

The Submerged Lands Act[53] gave most coastal states exclusive rights to the resources up to three miles from the coast.[54] The Outer Continental Shelf Lands Act[55] gave the federal government jurisdiction over the leasing of mineral resources on the lands lying outward of state waters, up to the edge of the United States Continental Shelf. The 1953 Act also established very general guidelines and directives for managing the resources, under the administrative responsibility of the Secretary of the Interior.[56]

Thus, as we approached the mid-1950s, our ocean policy consisted

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47. *Id.*

48. *See* G. MANGONE, *supra* note 21, at 17; Abel, *supra* note 28, at 6.

49. For a description of the slow progress of offshore activities until the mid-1950s, see J. WHITAKER, STRIKING A BALANCE—ENVIRONMENT AND NATURAL RESOURCES POLICY IN THE NIXON-FORD YEARS 259 (1976).

50. Magnuson, *supra* note 38, at 432.

51. *See* Young, *supra* note 38, at 201.

52. *See* Murphy & Belsky, *OCS Development: A New Law and a New Beginning*, 7 COASTAL ZONE MGMT. J. 297, 299-300 (1980).

53. Submerged Lands Act, Pub. L. No. 31, 67 Stat. 49 (1955) (codified as amended at 43 U.S.C. §§ 1301-56 (1982)).

54. Certain states were allowed to show entitlement to a larger area because of special arrangements when these states came into the Union. Subsequent court cases held that, for historic reasons, the boundaries of Texas and Florida would be three marine leagues—about 10 ½ miles. United States v. Florida, 363 U.S. 121 (1960).

55. Outer Continental Shelf Lands Act, Pub. L. No. 212, 67 Stat. 462 (1955) (codified as amended at 43 U.S.C. §§ 1331-56 (1982)) [hereinafter OCSLA].

56. *See* Murphy & Belsky, *supra* note 52, at 300.

of the establishment of national rights over an expanded jurisdictional area and temporary resolution of a conflict over the state and federal roles in development of this area. During the next period, our ocean policy would be a marine science policy, where the focus was on the establishment of a program of research and the advancement of ocean technology.[57]

B. The Marine Science Era

During the period from about 1956 to 1969, the international community's interest in the oceans focused on efforts to resolve a number of issues relating to jurisdiction and sovereignty over the ocean space.[58] The result was a series of Conventions[59] in 1958[60] that established jurisdictional zones and set a new balance between territorial sovereignty and the freedom of the seas.[61]

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57. Curlin, *Toward a Comprehensive Ocean Policy for Managing National Ocean Resources*, in CENTER FOR OCEANS LAW AND POLICY, MANAGING NATIONAL OCEAN RESOURCES 19 (1979).

58. *See* M. MCDOUGAL & W. BURKE, THE PUBLIC ORDER OF THE OCEANS 526-61 (rev. ed. 1987); MacRae, *supra* note 29, at 208-11.

59. As a result of the first Law of the Sea Conference in 1958, four treaties were promulgated: Convention on the Territorial Sea and the Contiguous Zone, Apr. 29, 1958, 15 U.S.T. 1606, T.I.A.S. No. 5639, 56 U.N.T.S. 205; Convention on the Continental Shelf, Apr. 29, 1958, 15 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 82; Convention on the High Seas, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 559 U.N.T.S. 285; and the Convention on Fishing and Conservation of the Living Resources of the High Seas, Apr. 29, 1958, 17 U.S.T. 138, T.I.A.S. No. 5969.

60. A second Law of the Sea Conference was held in 1960. It attempted to establish a fixed territorial sea breadth and to resolve fishing rights questions. It was unsuccessful in resolving the conflicts. *See* Knight, *International Fisheries Management: A Background Paper*, in THE FUTURE OF INTERNATIONAL FISHERIES MANAGEMENT 8 (H. Knight ed. 1975).

61. The 1958 Convention on the High Seas was considered to be merely a declaration of the high seas freedoms already part of customary international law. The other Conventions contained reiterations of existing rules and pronouncements of new rules. M. SHAW, INTERNATIONAL LAW 294 (2d ed. 1986).

The Convention on the Continental Shelf codified the emerging rule, based on the Truman Proclamation, providing coastal states with resource rights but not sovereignty to the lands beneath their continental shelves. *See* R. CHURCHILL & A. LOWE, *supra* note 23, at 111.

The Convention on the Territorial Sea and the Contiguous Zone recognized state sovereignty over its territorial sea but did not define the breadth of that zone. *See* R. CHURCHILL & A. LOWE, *supra* note 23, at 57, 60. It also established a zone of the high seas contiguous to the territorial sea, of a breadth no larger than 12 miles, where the coastal state could exercise regulatory jurisdiction over customs, fiscal, immigration, and sanitation. Convention on the Territorial Sea and the Contiguous Zone, art. 24, Apr. 29, 1958, 15 U.S.T. 1606, T.I.A.S. No. 5639, 56 U.N.T.S. 205. The Convention on Fishing and Conservation of Living Resources allowed nation-states to regulate fishing in adjacent areas of the high seas. However, many of the major fishing nations did not ratify the

Despite the international focus on national rights to resources and control over adjacent ocean space, America's interest in marine policy during this period concentrated on efforts to promote and coordinate marine science research and to secure new techniques and technologies to explore the oceans.[62]

By the mid-1950s, some marine scientists and engineers were concerned about the rivalries among marine laboratories and the decreasing percentage of federal funding allocated to oceanography.[63] They established a new Coordinating Committee on Oceanography (CCO).[64] In 1956, members of CCO called upon the National Academy of Sciences to study America's interest in the oceans and to make recommendations. The Academy responded in 1957 by establishing its first standing committee for ocean issues—the National Academy of Sciences Committee on Oceanography (NASCO). In 1959, NASCO published a marine science promotion report, *Oceanography 1960-1970.*[65]

Other events were also contributing to a growing interest in ocean science. In 1957, more than seventy nations joined together to conduct an international and interdisciplinary geophysical study. The United States was an active participant in this effort and hoped to show its scientific preeminence by launching the first orbiting satellite. The U.S. launch was delayed and, instead, the U.S.S.R. launched Sputnik and followed this launch with a second satellite putting the first living organism (a dog) into space. The first American efforts months later seemed minimal.[66]

Our nation's scientific ability then became a national policy issue and marine science directly benefited.[67] In 1958, President Eisenhower by Executive Order established a Presidential Advisor on Science and the Federal Council for Science and Technology. The Council established working groups and sub-committees on ocean science issues and eventually an Interagency Committee for Oceanography in 1960.[68] In 1959, a new congressional sub-committee on

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Convention and it never became accepted as binding international law. *See* Jacobson, *International Fisheries Law in the Year 2010*, 45 LA. L. REV. 1161, 1169-70 (1985).

62. G. MANGONE, *supra* note 21, at 19.

63. Abel, *supra* note 28, at 6-7 (During the 1950s, government research and development expenditures grew by a factor of five but oceanography support expanded by less than one-half. In 1958, less than $130 million of a national research and development budget of $15 billion was assigned to oceanography (½ of one percent).).

64. *Id.*

65. *See* Abel, *supra* note 28, at 7-9; Walsh, *Some Thoughts on National Ocean Policy: The Critical Issue*, 13 SAN DIEGO L. REV. 594, 608 (1976); G. MANGONE, *supra* note 21, at 18. The Report is popularly called the "NASCO Report."

66. Knecht, Cicin-Sain & Archer, *National Ocean Policy: A Window of Opportunity*, 19 OCEAN DEV. & INT'L L. 113, 115-16 (1988).

67. Abel, *supra* note 28, at 8.

68. *Id.* at 9-10; G. MANGONE, *supra* note 21, at 18; Walsh, *supra* note 65, at 608.

oceanography was established in the House of Representatives. That committee and the Senate Commerce Committee held separate hearings on the NASCO Report and on a new Navy report, *Ten Years of Oceanography (TENOC)*.[69]

Our "science gap" became an issue in the presidential election of 1960 and in congressional politics thereafter.[70] President Kennedy became the first president to use the word "oceanography" in a major message to Congress.[71] The new Interagency Committee held workshops on ocean instrumentation. The Senate published a major report on ocean sciences and national security.[72]

In the early 1960s, there was a "virtual blizzard" of hearings and proposed legislation suggesting the need for more ocean research.[73] Federal spending for marine sciences increased enormously and existing federal agencies were given broader mandates to support marine science students, survey the oceans, increase fisheries research, and evaluate mineral resources in the oceans.[74]

In 1963, the new Federal Science Council asked the Interagency Committee to develop a long-range program plan for the nation's oceans. This Report became a statement of "national objectives." The Report first identified all elements of the ocean constituency that could be invigorated from an expanded oceans program, and then recommended a geometric growth in federal spending.[75] Congressional interest in the oceans was heightened and led to legislative proposals for a cabinet level oceanographic council.[76] In addition, Congress held "landmark" hearings in 1965 that sought to define how the federal ocean program should be structured and managed.[77]

To respond to these legislative urgings, the Johnson Administration began considering, in the mid-1960s, a request from the Science Advisor for a new oceans program.[78] However, the Executive

69. *See* Walsh, *supra* note 65, at 608.
70. *See id.* at 609.
71. G. MANGONE, *supra* note 21, at 18.
72. Abel, *supra* note 28, at 12-14; D. BROOKS, *supra* note 35, at 33-34.
73. Walsh, *supra* note 65, at 609.
74. G. MANGONE, *supra* note 21, at 19; D. BROOKS, *supra* note 35, at 33-34. In 1960, the new Interagency Committee on Oceanography asked all federal agencies to nominate projects for inclusion in a catalog and to include budget requests. The Committee then reviewed the requests in an attempt to set a national ocean program. The budgets were to be a "baseline" for future budgets to see what progress was being made in ocean-related research. *See* Abel, *supra* note 28, at 11-12.
75. *See* D. BROOKS, *supra* note 35, at 34-36.
76. Abel, *supra* note 28, at 16; D. BROOKS, *supra* note 35, at 36.
77. *See* Walsh, *supra* note 65, at 609.
78. The Science Advisor had appointed a special panel to study and report on the

Branch's evaluation was preempted by legislation—the Marine Resources and Engineering Development Act of 1966.[79] Though the theme of the legislation was marine sciences, it did provide a basis for a broader ocean policy and program.[80]

The Act established a new program to assist colleges to conduct research, provide education, and later offer advisory services—the Sea Grant Program. It also created a Cabinet Level Marine Sciences Council, which, under the direction of Vice President Hubert Humphrey, implemented the National Sea Grant Program, helped launch the International Decade of Ocean Exploration in 1968, and suggested the need for coastal zone management.[81]

The Act also mandated the creation of a Commission on Marine Sciences, Engineering, and Resources, actually created in 1967, to examine the national interests in the oceans, delineate national goals, and establish a comprehensive long-range national program for marine affairs.[82] As noted in the introduction to this article, the Stratton Commission delivered its report in 1969. Its recommendations formed the basis for ocean legislation of the next decade and for the elements of a national ocean policy.[83]

This increased interest in marine matters also led to growth in federal support for ocean programs. Funding was approved for new marine research ships, for development of a food-from-the-sea technology, for increased collection of marine data, for research about resources in the oceans and the technology to obtain those resources, for scholarship assistance to oceanography students,[84] and for increased financial support for construction of fishing vessels and commercial fisheries research and development.[85]

The future seemed bright for development of a comprehensive oceans policy and program, as recommended by the Stratton Commission. However, national and governmental attention soon focused on a different issue—the state of our natural environment.[86] While there were some attempts to coordinate ocean activities, manage-

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federal oceanographic program. The report, released in July of 1966, made a number of recommendations for specific ocean projects and for the creation of a national agency for the ocean. *See* U.S. GOV'T, PRESIDENT'S SCIENCE ADVISORY COMMITTEE, PANEL ON OCEANOGRAPHY, EFFECTIVE USE OF THE SEA (1966).

79. Marine Resources and Engineering Development Act of 1966, Pub. L. No. 89-454, 80 Stat. 203 (codified as amended at 33 U.S.C. §§ 1101-31 (1982 & Supp. V 1987)) [hereinafter Marine Resources Act].

80. *See* Walsh, *supra* note 65, at 610; Knecht, Cicin-Sain & Archer, *supra* note 66, at 116.

81. Abel, *supra* note 28, at 17-21; D. BROOKS, *supra* note 35, at 43-44.

82. Abel, *supra* note 28, at 23.

83. *See* Knecht, Cicin-Sain & Archer, *supra* note 66, at 116-17.

84. *See* D. BROOKS, *supra* note 35, at 43.

85. *See* G. MANGONE, *supra* note 21, at 132-33.

86. *See* Knecht, Cicin-Sain & Archer, *supra* note 66, at 117.

ment, and policy, the next decade saw passage of numerous singularly-focused ocean-related laws, and the division of responsibility for ocean matters among more than twenty congressional sub-committees, twelve different Cabinet departments, eight independent agencies, and numerous other sub-cabinet federal agencies and advisory groups.[87]

C. The Environmental Decade

The period from the mid-1960s to the end of the 1970s has been termed the "environmental era." Until this period, public awareness about the state of our environment was minimal. With little expressed public concern, there was limited legislative action to study, monitor, and protect our air, water, land, and resources. Beginning in the mid-1960s, there were a series of reports about environmental damage, increasing pollution of the air and water, and the need for increased park and wilderness areas. Only at this point did the public begin to press its representatives to take action.[88]

Congress responded to this aroused sensitivity and perceived "environmental crisis" by establishing new sub-committees and expanded staff to study, conduct hearings on, and propose legislation.[89] The result was an extensive set of laws[90] "to curb the accelerating destruction of our country's natural beauty."[91]

The new national environmental agenda had a direct impact on ocean policy.[92] A series of statutes were enacted that significantly

87. *See id.*; G. MANGONE, *supra* note 21, at 24; COMMERCE OCEAN POLICY, *supra* note 15, *id.* at IX-16. For a listing of the committees, agencies, and other groups involved in ocean-related matters, see *id.* at IX-13, IX-14 (advisory committees, commissions, and councils), IX-17 to IX-21 (federal agencies).

88. Belsky, *Environmental Policy Law in the 1980's: Shifting Back the Burden of Proof*, 12 ECOLOGY L.Q. 1, 12, 14 (1984); *see also* R. CARSON, SILENT SPRING (1962) (widely publicized study on the impact of pesticides); CONG. Q., THE BATTLE FOR NATURAL RESOURCES 110 (1983)(descriptions on the state of our parks and wilderness areas); Knecht, Cicin-Sain & Archer, *supra* note 66, at 117 (news reports on the Torrey Canyon tanker spill off the coast of England in 1968 and the Santa Barbara oil blowout of 1969).

89. Knecht, Cicin-Sain & Archer, *supra* note 66, at 117.

90. "Starting with the Wilderness Act of 1964 and ending with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (the 'Superfund'), over twenty federal laws were enacted to protect the environment." Specifically, new statutes were designed to protect the air, water, oceans, and public lands of America. Damage from industrial development and operations were to be monitored and controlled with an eventual goal of a clean environment by the mid-1980s. *See* Belsky, *supra* note 88, at 12-13. For a list of these statutes, see *id.* at 12 n.56.

91. *See* Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 404 (1971).

92. *See* Curlin, *supra* note 57, at 19-20.

increased the scope of governmental control over the ocean space and that sought to protect and manage ocean resources.[93] With a few exceptions, these laws reflected a "use-by-use," "issue-by-issue," and "pollutant-by-pollutant" approach to oceans policy.[94] These single purpose laws were to be administered by over fifty federal agencies, often with joint responsibility for implementation and enforcement of the same statute.[95]

By the end of the 1970s, the United States had an extensive and sophisticated set of marine policies that focused on six goals: development of resources; protection of the ocean space; management of resources; service to ocean users; promotion of marine science, education, and technology; and strategic and military use of the oceans.[96] However, there was no comprehensive oceans policy.[97] As one commentator noted:

> No . . . broad pronouncements of U.S. policies exist. Rather, the last dozen years have seen a large number of new, independent ocean initiatives undertaken, dealing across the full range of issues. . . . These diverse efforts were not spawned as a part of a coherent national ocean campaign, and

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93. *See* Belsky, Book Review, 11 COASTAL ZONE MGMT. J. 249, 251 (1983) [hereinafter Belsky, Book Review].

94. *See* National Ocean Policy Commission Act of 1983, 98th Cong., 1st Sess., H.R. REP. No. 98-339, pt. 1 at 9 (1983) [hereinafter 1983 Ocean Policy Commission]. The most significant laws enacted during this period that were ocean-related included: the National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (codified at 42 U.S.C. §§ 4321-47 (1986)) [hereinafter NEPA]; the Federal Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (codified at 33 U.S.C. §§ 1251-1376 (1986)) [hereinafter FWCPA]; the Marine Mammal Protection Act of 1972, Pub. L. No. 92-522, 86 Stat. 1027 (codified at 16 U.S.C. §§ 1451-64 (1986)) [hereinafter MMPA]; the Marine Protection, Research and Sanctuaries Act of 1972, Pub. L. No. 92-532, 86 Stat. 1052 (codified at 16 U.S.C. §§ 1431-34 and 33 U.S.C. §§ 1401-44 (1986)) [hereinafter MPRSA]; the Coastal Zone Management Act of 1972, Pub. L. No. 92-583, 86 Stat. 1280 (codified at 16 U.S.C. §§ 1451-64 (1986)) [hereinafter CZMA]; the Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified at 16 U.S.C. §§ 1531-43 (1986)) [hereinafter ESA]; Port and Waterways Safety Act of 1970, Pub. L. No. 92-340, 86 Stat. 424 (codified at 33 U.S.C. §§ 1221-36 (1986)) [hereinafter PWSA]; the Fishery Conservation and Management Act of 1976, Pub. L. No. 94-265, 90 Stat. 331 (codified at 16 U.S.C. §§ 1801-82 (1986)) (later titled the Magnuson Fishery Conservation and Management Act) [hereinafter MFCMA]; the Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1567 (codified at 33 U.S.C. §§ 1251-1376 (1986)) [hereinafter CWA]; the Outer Continental Shelf Lands Act Amendments of 1978, Pub. L. No. 95-372, 92 Stat. 632 (codified at 43 U.S.C. §§ 1331-56 (1986)) [hereinafter OCSLAA]; the Deepwater Ports Act of 1974, Pub. L. No. 93-627, 88 Stat. 2126 (1975) (codified at 33 U.S.C. §§ 1501-24 (1986)) [hereinafter DWA]; the Ocean Thermal Energy Conversion Act of 1980, Pub. L. No. 96-283, 94 Stat. 941 (codified at 30 U.S.C. §§ 9101-67 (1986)) [hereinafter OTEC]; the Deep Seabed Hard Mineral Resources Act, Pub. L. No. 96-283, 94 Stat. 553 (1980)(codified at 30 U.S.C. §§ 1401-73 (1986)) [hereinafter DSHMRA].

95. *See* Curlin, *supra* note 57, at 20. For a detailed description of each of these statutes and their assignment of responsibilities to different agencies, see COMMERCE OCEAN POLICY, *supra* note 15, app. A.

96. *See* Curlin, *supra* note 57, at 20-23.

97. *See* J. Byrne, NOAA's Role in a National Ocean Policy, J. Seward Johnson Lectures in Marine Policy 5-6 (Sept. 17, 1981).

> while each may be achieving its own goals to a certain degree, they remain today a disparate, uncoordinated, and occasionally conflictive, assembly of unprioritized programs.[98]

There were a few calls for a comprehensive ocean policy during the 1970s[99] and some efforts to reorganize the government[100] and to coordinate governmental activities.[101] Yet, there appeared to be little interest in a unified approach.[102] Despite this disorganization, federal government support of ocean research, protection, and management grew;[103] and individual states increased their involvement with ocean issues, especially coastal management.[104] To ocean constituents, both in the Congress and in the resource exploitation and environmental protection community, the "oceans" was a "growth industry." The focus was on implementing existing laws and regulations, and securing increasing funds from the federal treasury.[105]

This confident perspective was about to change. The election of 1980 brought in a new federal administration which was: less concerned about environmental protection;[106] desirous of decreasing expenditures for all federal programs, including those that were marine-related;[107] and hopeful of imposing its own ideological view

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98. Knecht, *The United States and the Oceans: A Preliminary Assessment*, in OCEAN POLICY ROUNDTABLE, ASSESSING OCEAN GOVERNANCE 5 (Marine Policy and Ocean Management Center, Woods Hole Oceanographic Institution 1983); *see also* Knecht, Cicin-Sain & Archer, *supra* note 66, at 117.

99. *See* D. BROOKS, *supra* note 35, at 213 (quoting a report by the National Ocean Policy Study of the United States Senate).

100. *See infra* notes 143-58 and accompanying text.

101. *See infra* notes 143-58 and accompanying text; *see also National Ocean Pollution Planning Reauthorization and Great Lakes Pollution Act—H.R. 3600: Hearings Before the Subcomm. on Oceanography of the House Comm. on Merchant Marine and Fisheries*, 97th Cong., 2d Sess., Feb. 4, 1982, Ser. No. 97-43 (1982) (statement of Martin H. Belsky, Assistant Administrator, National Oceanic and Atmospheric Administration) [hereinafter statement of Martin H. Belsky].

102. Abel, *supra* note 28, at 45.

103. *See, e.g.*, FEDERAL INTERAGENCY COMMITTEE ON OCEAN POLLUTION RESEARCH, DEVELOPMENT & MONITORING, NATIONAL MARINE POLLUTION PROGRAM PLAN x-xiii (1981) (describing the increased expenditures and programs for ocean pollution research, developments, and monitoring from 1978 to 1980) [hereinafter 1981 POLLUTION PLAN].

104. *See, e.g.*, J. MYERS, AMERICA'S COASTS IN THE 1980'S: POLICIES AND ISSUES (1981).

105. *See, e.g.*, CONSERVATION FOUNDATION, COASTAL ZONE MANAGEMENT, 1980 - A CONTEXT FOR DEBATE (1980); NATIONAL ADVISORY COMMITTEE ON OCEANS AND ATMOSPHERE, OCEAN SERVICES FOR THE NATION: NATIONAL OCEAN GOALS AND OBJECTIVES FOR THE 1980'S (1981).

106. *See* Belsky, *supra* note 88, at 37-38.

107. *See* D. BROOKS, *supra* note 35, at 241-42 (reprinting a letter from the National Advisory Committee on Oceans and Atmosphere, dated May 15, 1981, criticizing proposed budget cuts to ocean programs).

of national interest into an international policy for the oceans.[108]

D. The Reagan Ocean Policy

Until 1983, the "ocean policy" of the Reagan Administration was identical to its policy towards all federal environmental and resource management and protection programs.[109] Government was to be mistrusted and reduced. The private sector, if left alone, would be able to secure national prosperity through its own initiatives. Overregulation had thwarted growth and initiative. "Deregulation" was essential. When government action was required, a "new federalism" provided that actions should be taken at the level of government closest to the people—the states, counties, cities, and towns. Federal spending should be limited to essential services, particularly national security and defense.[110]

As applied to the oceans, this philosophy led to reductions in the budgets of federal agencies with marine-related regulatory and research responsibilities and the attempted elimination of some programs, such as Sea Grant and Coastal Zone Management. In fact, ocean and coastal programs were generally targeted for reform and reduction.[111] The new philosophy also meant a change in the federal government's attitude toward the ocean space.

Ocean resources were to be exploited; developers to be left alone and allowed to develop; and protective measures only taken upon concrete proof of real and present injury.[112] While seeming to sup-

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108. The Reagan Administration rejected the new United Nations Convention on the Law of the Sea because of ideological concerns with the common heritage concept included in the deep seabed portions of that treaty. The Administration sought to create an alternative international oceans policy at the time it rejected the treaty, when it established a 200-mile exclusive economic zone and stated a new United States Ocean Policy. *See* Proclamation No. 5030, 48 Fed. Reg. 10,605 (1983), 3 C.F.R. 5030 (1983), *reprinted in* 22 I.L.M. 465 (1983) [hereinafter EEZ Proclamation]; Statement by President on United States Ocean Policy, accompanying his Proclamation establishing an Exclusive Economic Zone, 19 WEEKLY COMP. PRES. DOC. 383 (Mar. 10, 1983), *reprinted in* 22 I.L.M. 464 (1983) [hereinafter Reagan Ocean Statement].

109. *See* Knecht, Cicin-Sain & Archer, *supra* note 66, at 127; D. BROOKS, *supra* note 35, at 48.

110. *See* Belsky, *supra* note 88, at 37-38. For a detailed description of the implementation of this philosophy, see *id.* at 40-84.

111. *See* Knecht, Cicin-Sain & Archer, *supra* note 66, at 121-28; Belsky, Book Review, *supra* note 93, at 252-53; *see, e.g., Hearings Before the Subcomm. on Oceanography, Comm. on Merchant Marine and Fisheries*, 97th Cong., 1st Sess. 35 (Marine Sanctuaries Reauthorization), 311 (National Sea Grant Program Proposed Budget), 441 (Coastal Zone Management Budget Cuts) (1981) [hereinafter *1981 Authorization Hearings*].

112. *See* Belsky, Book Review, *supra* note 93, at 252-53; Knecht, Cicin-Sain & Archer, *supra* note 66, at 123. I have termed this change in policy a shift in the burden of proof. *See* Belsky, *supra* note 88, at 5; Belsky, Book Review, *supra* note 93, at 252-53. One problem with requiring proof of real harm before taking protective measures was that most regulatory decisions are based on "risks" of harm that must be determined after careful research and monitoring. The Reagan Administration sought to not only

port the increased state interest in ocean matters, the Reagan Administration sought to limit state power to protect the marine environment. Less money would be made available for state programs of research and management.[113] State attempts to manage their coasts or impact exploitation of offshore resources were vigorously opposed.[114]

The focus of the ocean community in the early years of the Reagan Administration had to be reactive. Developers supported regulatory reforms. Conservationists and scientists fought a "holding action." Congress successfully thwarted most attempts to change the status quo.[115] Ocean programs survived, but this was not the time to consider establishing a "national oceans policy." Separate ocean constituencies were too busy protecting their own interests.[116]

However, a new impetus for formulation of a comprehensive oceans policy arose in 1983. President Reagan refused to sign the new Convention on the Law of the Sea. He opposed the provisions on deep seabed mining but accepted the thrust of the remainder of the Treaty.[117] To "have his cake and eat it too," he proclaimed that the United States was unilaterally creating a 200 mile exclusive economic zone,[118] and accepting the provisions of the new treaty, except for the deep seabed provisions, as customary international law, binding on the United States and all other nations.[119]

The President's EEZ Proclamation of 1983[120] was accompanied by a Statement on United States Ocean Policy[121] and a "Fact Sheet"

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shift the burden of proof but also to reduce the money and other resources available to answer the scientific questions essential to determining risk. *See* Belsky, Book Review, *supra* note 93, at 253; Belsky, *supra* note 88, at 59.

113. *See 1981 Authorization Hearings*, *supra* note 111, at 311, 411.

114. *See* Knecht, Cicin-Sain & Archer, *supra* note 66, at 126-27.

115. Some commentators have described the situation as a "policy stalemate." *Id.* at 123.

116. *Id.* at 128.

117. Statement by the President at the Convention on the Law of the Sea, 18 WEEKLY COMP. PRES. DOC. 887-88 (July 9, 1982).

118. EEZ Proclamation, *supra* note 108.

119. Reagan Ocean Statement, *supra* note 108; *see* Malone, *Who Needs the Sea Treaty?*, 45 FOREIGN POL'Y 41, 61 (Sept. 1984); *see also* Boczek, *The Protection of the Antarctic Ecosystem: A Study in International Environmental Law*, 13 OCEAN DEV. & INT'L L.J. 347, 393 (1983) (UNCLOS codifies for the oceans general environmental law, especially as it relates to a comprehensive obligation to protect the environment); 2 RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES 5-6 (1987) (except for provisions on deep seabed mining and dispute settlement, "substantive provisions of the Convention" are "statements of customary international law binding upon [nations including the United States]").

120. EEZ Proclamation, *supra* note 108.

121. Reagan Ocean Statement, *supra* note 108.

prepared by the White House, explaining the Proclamation and the President's Statement.[122] The focus of the Fact Sheet, Proclamation, and Oceans Policy Statement was the United States international obligations. There was no discussion of the implications of this new international policy on domestic U.S. policy. Nevertheless, they formed the basis for extended scholarly and political discussions[123] of the "window of opportunity" now provided to establish a new national ocean policy.[124] This speculation was only the most recent in the almost twenty year attempt to provide government mechanisms to mandate an integrated oceans program.[125]

The next part of this article will describe these previous attempts, and suggest why the newest efforts at policy setting and government reorganization will, like their predecessors, be ineffective. Only a legal doctrine, which I believe now exists, that mandates a comprehensive ecosystem model of science and management, will force our national policymakers to take a holistic approach.

III. Attempts to Organize National Ocean Policy and Programs

As discussed earlier, Congress made its first efforts to set a national policy agenda for the oceans more than twenty years ago, when it enacted the Marine Resources and Engineering Development Act of 1966. That Act established both a National Council on Marine Resources and Engineering Development (popularly called the Marine Science Council) and a Commission on Marine Science, Engineering, and Resources (later called the Stratton Commission). Since then, there have been numerous attempts to force the federal

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122. The White House, Office of the Press Secretary, Fact Sheet, United States Ocean Policy, 22 I.L.M. 461-62 (1983).

123. *See, e.g.*, Exclusive Economic Zone Implementation Act, H.R. 2061, 98th Cong., 1st Sess. (1983); Exclusive Economic Zone Implementation Act, S. 750, 98th Cong., 1st Sess. (1983) (policy statements and amendments to existing statutes to set forth United States ocean policy); Center for Ocean Management Studies, Implications of a United States Claim to a 200-mile Exclusive Economic Zone (summary of a workshop held Apr. 11-12, 1983); Ocean Policy Roundtable, Assessing Ocean Governance (Marine Policy and Ocean Management Center, Woods Hole Oceanographic Institution 1983); National Advisory Committee on Oceans and Atmosphere, The Exclusive Economic Zone of the United States: Some Immediate Policy Issues (May 1984) [hereinafter NACOA EEZ]; Marine Technology Society & Institute of Electrical and Electronics Engineers, Oceans '84 - Exclusive Economic Zone Papers; 1983 Ocean Policy Commission, *supra* note 94, at 10-12 (President's decision to not sign UNCLOS and to establish an Exclusive Economic Zone adds impetus to the need for a comprehensive approach to ocean policy-making).

124. *See* Knecht, Cicin-Sain, & Archer, *supra* note 66, at 128; *see also* NACOA EEZ, *supra* note 123, at 3; Belsky, *supra* note 13, at 19; Knecht & Kitsos, *Multiple Use Management in the EEZ*, 27 Oceanus 13, 17-18 (Winter 1984/85).

125. *See* Juda, *The Exclusive Economic Zone and Ocean Management*, 18 Ocean Dev. & Int'l L. 305, 319 (1987).

government to pursue a more comprehensive ocean policy.

Those attempts have concentrated on four strategies to assert an oceans agenda and determine an oceans policy: (1) elevation of ocean issues and coordination to the highest levels of government; (2) reorganization of the federal government; (3) oversight by special committees, commissions, and interagency coordinating bodies; and (4) mandates for reports and coordination by special legislation.[126] Each has had only limited success.[127] The status of ocean policy today is still that of scattered laws, administered by scattered federal agencies, with minimal presidential attention, and minimal integration.[128]

A. Seeking a White House Focus

Some ocean advocates urge that only direct Executive Office interest and involvement will assure adequate coordination, development, and oversight of marine policy.[129] Such high-level responsibility was the intent of the Marine Resources and Engineering Development Act, and its creation of a Marine Science Council. This Council was established as a Cabinet-level interagency group, under the chairmanship of Vice President Humphrey.

During its history, the Council formulated policy, recommended programs, and took an active leadership role in federal ocean legislation, management, and coordination.[130] It helped expand the ocean's budget, secure legislation, and establish coordinating mechanisms for ocean research, marine-related education, fisheries development, and coastal zone development.[131] However, in 1971, it was terminated because of "lack of interest" by the Administration.[132]

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126. *See* Bowen, *The Major United States Federal Government Marine Organization Proposals*, in MAKING OCEAN POLICY, *supra* note 28, at 51; Knecht, Cicin-Sain & Archer, *supra* note 66, at 120.

127. *See* Statement of Martin H. Belsky, *supra* note 101.

128. *See National Ocean Policy Commission Act of 1987: Hearings Before the House Comm. on Merchant Marine and Fisheries*, 100th Cong., 1st Sess. 6-11 (1987) [hereinafter *1987 Ocean Commission Hearings*].

129. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-4; *see, e.g.*, Walsh, *National Organization For Ocean Management: Centralization v. Functionalization*, in MAKING OCEAN POLICY, supra note 28, at 85 ("Policy formation and direction must come from a presidential-level council [and implementation through] an ocean policy directorate within the OMB.").

130. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-5.

131. D. BROOKS, *supra* note 35, at 42-44.

132. E. WENK, THE POLITICS OF THE OCEAN 163 (1972). The Senate had originally wanted to establish a permanent Council, but eventually compromised for a temporary one to expire in 24 months. *See* G. MANGONE, *supra* note 21, at 137. Subsequent

With the termination of the Council, the responsibility for marine policy oversight within the Executive Office was moved to the Office of Science and Technology. That office was dismantled in 1973. Since that time, no special White House organ has been given responsibility for oceans issues.[133] Only a limited Interagency Committee on Oceans and Atmosphere (CAO), under the Federal Coordinating Council for Science and Technology, presently exists.[134] CAO has no real responsibility or leadership. It merely provides a forum for agencies with ocean responsibilities to meet irregularly and to occasionally collect a list of ocean activities in a report.[135]

With the relegation of ocean policy coordination to lower level interagency coordinating committees,[136] ocean activists sought to encourage other White House Councils to take a more active interest in ocean affairs.[137] However, ocean interests cut across the various councils established by Presidents Nixon, Ford, Carter, and Reagan.[138] Continuing calls for a new Cabinet-level Marine Council or a marine affairs coordinator have gone unheeded.[139]

Each president has also established review mechanisms involving the White House staff. However, the staff reviewed policy on an issue-by-issue basis. Ocean policy, as an issue, was not comprehensively addressed but, rather, was set "in the context of functional problems within the [broader] framework of domestic and foreign policy."[140]

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legislation extended the life of the Council to 60 months. *See* Walsh, *supra* note 65, at 610. When President Nixon did not propose re-authorizing legislation in 1971, it was terminated by operation of law. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-5.

133. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-6. A new Office of Science and Technology Policy was established in 1976. That new Office, however, never assumed direct responsibility for marine policy oversight. *Id.*

134. *See id.* at IX-5-IX-6, IX-8. One commentator has termed the work of the CAO "intellectual oatmeal" rather than "caviar." Walsh, *supra* note 65, at 612.

135. *See, e.g.*, CAO, REVIEW OF FEDERAL STATUTORY AUTHORITIES FOLLOWING THE PRESIDENTIAL PROCLAMATION OF A 200 MILE EXCLUSIVE ECONOMIC ZONE (Nov. 1985). During the time I was Assistant Administrator for NOAA, my office acted as staff for CAO. Representatives to CAO meetings came from the middle-management level of federal agencies and sought only to discuss their individual ocean agenda and not broad policy issues. Moreover, the top administrators of these agencies never showed any interest in the activities of CAO, except for grumbling about the time that had to be spent in preparing the supposedly annual report on Federal Oceans Programs, mandated by the Marine Resources and Engineering Development Act. *See also* COMMERCE OCEAN POLICY, *supra* note 15, at IX-5.

136. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-5.

137. *See, e.g.*, Curlin, *supra* note 57, at 25-29.

138. Separate councils dealt with general domestic issues, energy resources, national security, and environmental quality. Ocean issues and activities, of course, were discussed and recommendations for presidential decisions made; but recommendations were made by each Council, in the context of its own broader policy agenda. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-6-IX-9; *see also* D. REGAN, FOR THE RECORD 235 (1988).

139. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-9-IX-12.

140. *Id.* at IX-9. One example of this process relates to the interagency conflict

Similarly, the President's Office of Management and Budget (OMB) is divided to parallel the departments and agencies it oversees. Thus, federal ocean management and budget issues, supposedly to be analyzed in a coordinated manner, are analyzed by separate components of OMB with little coordination of overall policy.[141]

Even the most recent White House task force to review the United Nations Convention on the Law of the Sea focused on narrow issues such as the meaning of the "Common Heritage of Mankind" and the ability of the President to establish new international law by a Proclamation, rather than by signing the Convention. It did not address any broader issues or the need to establish a comprehensive national oceans policy in response to our new international policy.[142]

B. Reorganization

Another means to establish a comprehensive oceans program and policy might be the creation of a federal oceans agency or Cabinet level department. In fact, the Stratton Commission believed that a national oceans program could only be achieved "by creating a strong civil agency within the Federal Government with adequate authority and adequate resources."[143] It recommended creation of a new independent agency—the National Oceanic and Atmospheric Agency.

This agency was to have "unified management" responsibilities for all then-existent civil marine programs and was to be the home for all future programs so as to "provide for their initiation and guide their development."[144] In those limited situations where the national

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between NOAA and the Department of Interior as to responsibility over marine resources other than fish and oil and gas. Now in its tenth year, the debate, so far as the White House is concerned, concerns only which agency should have responsibility, and not the larger question of the impact of the development of new resources in the context of a larger national ocean policy. *See* Office of Policy and Planning, National Oceanic and Atmospheric Administration, Department of Commerce, Memorandum on Administrative Responsibility for Ocean Mining (May 29, 1979); Office of the Assistant Secretary, Energy and Minerals, Department of the Interior, Memorandum on Implementation of S. 493 "Deep Seabed Mineral Resources Act" by the Department of the Interior (May 30, 1979); *see also* NACOA, MARINE MINERALS: AN ALTERNATIVE MINERAL SUPPLY (July 1983).

141. *See* Curlin, *supra* note 57, at 27-29.

142. *See* Ratiner, *The Law of the Sea: A Crossroads for American Foreign Policy*, 60 FOREIGN AFF. 1006, 1007-12 (1982); Hoyle, *National Legislation*, in CENTER FOR OCEAN MANAGEMENT STUDIES, THE UNITED STATES WITHOUT THE LAW OF THE SEA TREATY: OPPORTUNITIES AND COSTS 253, 255-56 (1983).

143. STRATTON COMMISSION REPORT, *supra* note 1, at 229.

144. *Id.*

interest required placement of an ocean program in some other organ of the federal government, the new agency would be responsible for the coordination of those programs and setting the national oceans policy agenda.[145]

President Nixon did not wholeheartedly accept the Commission's recommendation. He appointed a new task force which also recommended a national agency, independent and reporting directly to the President, that would coordinate the national ocean program. However, the new task force suggested that the new agency be given only the responsibility to coordinate the nation's ocean program, and not necessarily control of all present and future ocean programs. President Nixon then took that recommendation, and by Reorganization Plan Number 4 of 1970, established an "administration"—the National Oceanic and Atmospheric Administration (NOAA)—that was placed in the Department of Commerce.[146]

NOAA was given responsibility for marine fisheries, some environmental sciences and engineering programs, the National Weather Service, and some minor programs in other agencies.[147] Later legislation gave NOAA the responsibility for coastal zone management, deep seabed mining, and ocean pollution research and coordination.[148] Despite the Stratton Commission recommendation, NOAA never became the lead civil agency for oceans programs and policies.[149] It has, however, become the focus for subsequent proposals to centralize the federal ocean program.

In 1974, the National Advisory Committee on Oceans and Atmosphere (NACOA), established as a result of the recommendations of the Stratton Commission,[150] recommended expanding NOAA to give it broad ocean management and policy responsibilities, either as an independent agency or within a new Department of Energy and Natural Resources. In 1976, Senator Ernest Hollings of South Carolina recommended a new Department of Environment and Oceans which was to include all oceans programs in a new department with a research, conservation, and environmental policy focus.[151] In 1977, Professor John Norton Moore similarly recommended an independent oceans and atmospheric administration, responsible for all do-

145. *Id.* at 231, 244.
146. Reorg. Plan No. 4 of 1970, *reprinted in* 84 Stat. 2090 (1970).
147. *See* Walsh, *supra* note 65, at 611-12; Abel, *supra* note 28, at 25.
148. *See* Abel, *supra* note 28, at 25-32; *see also* Statement by John B. Breaux, Chairman, Subcommittee on Fisheries and Wildlife Conservation and the Environment, in COASTAL STATES ORGANIZATION, OCEANIC AND ATMOSPHERIC POLICY ISSUES OF THE 1980'S: THE ROLE OF THE NOAA ORGANIC ACT 40, 42 (1980) [hereinafter Breaux Statement].
149. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-30; Breaux Statement, *supra* note 148, at 42-43; Abel, *supra* note 28, at 46-47.
150. *See* STRATTON COMMISSION REPORT, *supra* note 1, at 245-46.
151. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-31-IX-32.

mestic oceans programs and coordination of oceans policy.[152]

Other broader reorganization proposals also led to suggestions for a coordinated federal oceans program, under one administration. In 1971, President Nixon proposed a Department of Natural Resources, which, among other things, would have "consolidated" programs for marine resources and technology.[153] In 1978, President Carter proposed a new Department of Natural Resources, that would include a "focal point in the federal government for developing ocean resource policies [and] for providing comprehensive management of ocean-related natural resources."[154]

More recently, President Reagan proposed to reorganize all federal trade functions into the Department of Commerce and to split off NOAA, presumably as an independent agency, but without any responsibilities beyond what it had as part of the Department of Commerce.[155]

None of these proposals came to fruition. They faced the traditional obstacles to any proposal for reorganization from an issue-by-issue constituency, from an established bureaucracy, and from congressional committees fearing a shrinkage of jurisdiction.[156] However, these reorganization proposals did lead to numerous bills, none of which ever became law, that would have provided an Organic Act for NOAA.[157] Among the goals of these proposed Organic Acts were the centralization of ocean policy and management responsibilities in NOAA and the attainment of the goal of the Stratton Commission

152. Moore, *Symposium: New Directions in United States Ocean Policy*, 19 WM. & MARY L. REV. 1 (1977).

153. COMMERCE OCEAN POLICY, *supra* note 15, at IX-30.

154. *See* Bowen, *supra* note 126, at 63 (quoting a staff report from President Carter's Reorganization Project detailing the proposed Department of Natural Resources and proposing a new oceans and atmospheric agency within this DNR with broad ocean policy and management responsibilities).

155. *See NOAA as an Independent Agency: Hearings on H.R. 3381, Before the Subcomm. on Oceanography*, 98th Cong., 1st Sess., pt. 2, at 1 (1983) (statement of Rep. D'Amours) [hereinafter *Independent NOAA Hearings*]; *id.* at 68 (statement of Robert Knecht).

156. *See* Knecht, Cicin-Sain & Archer, *supra* note 66, at 120; *see also* Bleicher, *Reflections on the Failure of NOAA's Ocean Management Office*, 11 COASTAL ZONE MGMT. J. 353, 363 (1984) (describing why "ocean management [is] so difficult to implement").

157. *See, e.g.*, The National Oceanic and Atmospheric Administration Organic Act of 1979, H.R. 9708, 96th Cong., 1st Sess. (1979); The National Oceanic and Atmospheric Administration Organic Act of 1983, H.R. 3381 & H.R. 3355, 98th Cong., 1st Sess. (1983); *see also* Ocean Sci. News, July 15, 1988, at 1, 7-8 (reporting on legislation introduced in July of 1988 that would create an independent NOAA and give it "lead agency" responsibility for all ocean issues).

that NOAA be, in fact, the lead civil oceans agency.[158]

Attempts to set a national oceans agenda and policy were not limited to formal reorganization. Repeated efforts were made to use more informal advisory committees, congressional study groups, and other mechanisms to focus governmental interest in and action on ocean issues.

C. Committees, Commissions, and Congressional Oversight

As early as the 1950s, scientists realized that there was a need for coordination, planning, and policy setting for marine issues, especially marine science. From 1956 to 1966, government researchers and engineers formed a series of coordinating committees in an attempt to increase their "clout" and develop an integrated strategy for marine science.[159] Scientists in the academic community also sought a new organizational structure to support coordinated ocean-related research and technology.[160]

The impact of these efforts was mixed. Reports were published stressing the importance of oceanography to our national interests. New procedures were adopted to collect information on federal marine science expenditures and programs and to suggest future goals and funding. In addition, efforts were begun to develop a long-range plan for the nation's ocean program. However, the focus was mostly on science and technology. More general policy issues were not addressed.[161]

These early efforts led to legislation formally establishing the National Council on Marine Resources and Engineering Development. As described earlier, this Council was eventually terminated and was replaced by a low-level Interagency Committee on Oceans and Atmosphere (CAO). Over the last twenty years, interagency panels or

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158. Statement of Martin H. Belsky, in *Independent NOAA Hearings*, *supra* note 155, at 213-21; Statement of Samuel Bleicher, in *id.* at 222-26. *See generally* COASTAL STATE ORGANIZATION, OCEANIC AND ATMOSPHERIC POLICY ISSUES OF THE 1980'S: THE ROLE OF THE NOAA ORGANIC ACT (1980).

159. *See* Abel, *supra* note 28, at 6-17. In the early 1950s marine scientists within the Navy bureaucracy established an "Informal Oceanographic Discussion Group." Later, in 1956, they included individuals from other agencies in a more formal "Coordinating Committee on Oceanography." As a result of Sputnik, and a more general government interest in science and technology, a newly created Federal Council for Science and Technology formed in 1959 a special subcommittee to review plans and programs of the various federal agencies charged with responsibilities that related to the oceans. In 1960, this became the "Interagency Committee on Oceanography." *Id.*

160. In 1957, the National Academy of Sciences established its first standing Committee on Oceanography which, from 1959 to 1961, published a series of reports identifying national goals and policies for marine science. *See* Abel, *supra* note 28, at 8-9. This Committee in the 1960s became the Ocean Sciences Board. In addition, the Academy also established a Marine Board, an Ocean Policy Committee, and a Marine Transportation Research Board. *Id.* at 42.

161. *See supra* notes 58-87 and accompanying text.

groups have been established so that today there are, in addition to CAO, over fifty such organs.[162] These interagency groups rarely take action, and then only as the result of outside pressure.[163] In most cases they fail because "regardless of how well-intentioned they may be, they have no power to implement."[164]

Blue ribbon advisory commissions and committees are alternative devices that are often used to force government to coordinate activities and set broad policy goals.[165] The Stratton Commission is a good example of the value of such groups. Blue ribbon commissions can review various projects, plans, and government policies, and establish overall goals. They can also recommended future actions, structures, and programs to implement those goals. The prestigious nature of a committee or commission's membership gives it the potential to impact the making of policy.[166]

The Stratton Commission, believing in the value of such an advisory mechanism, recommended the establishment of a new National Advisory Committee for the Oceans (NACOA).[167] This Advisory Committee was to consist of experts, appointed by the President, who would oversee the nation's oceans programs, with appropriate liaisons with each federal agency that had ocean responsibilities.[168] NACOA was created in 1971[169] and continued, with some modifications,[170] until the end of 1982.[171]

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162. Rothchild & Roales, *Public Policy For A Specialized Interest: The Oceans*, in CENTER FOR OCEAN MANAGEMENT STUDIES, COMPARATIVE MARINE POLICY 236, 240 (1981).

163. *Id.* at 242.

164. *Id.* at 241.

165. *See* NATIONAL OCEANS POLICY COMMISSION ACT OF 1987-H.R. 1171, H.R. REP. No. 100-300, 100th Cong., 1st Sess., pt. 1 at 11 (1987) [hereinafter 1987 OCEAN COMMISSION REPORT].

166. *See* Statement of Senator John B. Breaux, in *1987 Ocean Commission Hearings*, *supra* note 128, at 3-4.

167. STRATTON COMMISSION REPORT, *supra* note 1, at 19.

168. *Id.* at 245-46.

169. National Advisory Committee on Oceans and Atmosphere Act of 1971, Pub. L. No. 92-125, 85 Stat. 344 (codified as amended at 33 U.S.C. §§ 857-6 (1986)).

170. In 1977, the original NACOA Act was repealed and new legislation enacted to reconstitute it, with more members and specific qualifications for membership to assure its "blue ribbon" status. National Advisory Committee on the Oceans and Atmosphere Act of 1977, Pub. L. No. 95-63, 91 Stat. 265; *see* COMMERCE OCEAN POLICY, *supra* note 15, at IX-12.

171. The last chair of NACOA indicated that the basis for the termination of NACOA was that "Congress had lost sufficient confidence in [it]." *See 1987 Ocean Commission Hearings*, *supra* note 128, at 120 (letter from John A. Knauss, to Walter B. Jones, Chair, Committee on Merchant Marine and Fisheries (May 18, 1987)). Some members of Congress proposed to replace NACOA with a "blue ribbon" National Ocean

NACOA produced many worthwhile reports,[172] and made attempts at open hearings and in communications to the Executive Branch and Congress to coordinate ocean policy, oversee implementation of ocean programs, and suggest reforms in government structure, management, and policy-making.[173] However, it was generally ill-suited for real policy coordination and development. It had a traditional program-by-program focus and a small staff.[174] Its members were frequently selected on the basis of politics rather than expertise.[175]

When, pursuant to the recommendation of the Stratton Commission, NACOA was placed in the National Oceanic and Atmospheric Administration, it also lost some of its credibility with other federal agencies and became involved in the bureaucratic infighting so common to ocean policy.[176] Moreover, the ocean constituency, both in and out of government, was issue-by-issue oriented. Instead of one comprehensive advisory group, NACOA co-existed with separate advisory committees for fisheries, coastal zone management, Sea Grant, and off-shore oil and gas development.[177]

Perhaps, the main reason for the lack of total success for NACOA is the nature of advisory committees generally. As overseers, from the outside, their advice is not self-executing and must be translated

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Policy Commission—in effect, a Stratton II. *See* 1983 Ocean Policy Commission, *supra* note 94, at 11.

172. *See, e.g.*, NACOA, FISHERIES FOR THE FUTURE (1982); NACOA, THE EXCLUSIVE ECONOMIC ZONE OF THE UNITED STATES: SOME IMMEDIATE POLICY ISSUES (1982); NACOA, OCEAN SERVICES FOR THE NATION: NATIONAL GOALS AND OBJECTIVES FOR SERVICES TO OCEAN OPERATIONS IN THE 1980'S (1981); NACOA, THE ROLE OF THE OCEAN IN A WASTE MANAGEMENT STRATEGY: A SPECIAL REPORT TO THE PRESIDENT AND CONGRESS (1981).

173. *See* Abel, *supra* note 28, at 44; Bowen, *supra* note 126, at 66-69; *see, e.g.*, D. BROOKS, *supra* note 35, at 51-54 (fisheries), 83-84 (shipping). *See generally Hearings on H.R. 6197, National Advisory Comm. on Oceans and Atmosphere Reauthorization, Before the Subcomm. on Oceanography*, 97th Cong., 2d Sess. 102-22 [hereinafter *1982 NACOA Reauthorization Hearing*].

174. 1983 Ocean Policy Commission, *supra* note 94, at 11.

175. *See* Abel, *supra* note 28, at 44. Perhaps the clearest example of the politics of advisory committee appointments was the proposal of President Reagan to appoint Anne Gorsuch Burford to NACOA. Ms. Gorsuch had little expertise and it was generally accepted that her appointment was an attempt to ameliorate her recent removal as Administrator of the Environmental Protection Agency. *See* L. SPEAKES, SPEAKING OUT 249 (1988).

176. While the author served as Assistant Administrator of NOAA, responsibility for administration of NACOA, and assistance in staffing and budgeting, was located in the Assistant Administrator's office, the Office of Policy and Planning. Some agency representatives believed that NACOA was a "NOAA tool" and that it existed to serve only NOAA's turf-fighting and budget-funding goals. They assigned lower-level employees as liaisons and only reluctantly acceded to requests to appear before the Committee or to requests for information.

177. *See* COMMERCE OCEAN POLICY, *supra* note 15, at IX-13. Dr. James Curlin, author of the *Ocean Policy Report*, suggested that there were at one time 75 advisory committees, commissions, and councils. *Id.* at IX-12.

into governmental action. There is no process to ensure that advice will be implemented.[178]

The most recent efforts at securing policy coordination have been to secure a new blue ribbon commission, Stratton - II. Three attempts have been made since 1983 to secure such a commission to "develop recommendations on a comprehensive national oceans policy."[179] None has yet been successful.

In addition to interagency coordinating committees and special commissions and advisory committees, another method of attempting to secure some policy implementation is by congressional action and oversight.[180] As noted above, however, Congress itself did not pursue any overall ocean policy. Ocean problems were addressed on an issue-by-issue basis. Oversight of implementation was similarly divided.[181]

There have been, however, at least two attempts at strengthening the ability of Congress to legislate and oversee ocean issues. In 1974, the Senate established a National Ocean Policy Study (NOPS), as

178. *See* Curlin, *supra* note 57, at 26; COMMERCE OCEAN POLICY, *supra* note 15, at IX-14. The author's experience at NOAA highlights this problem. Senior administrators in other federal agencies and in NOAA itself did not like being "second-guessed" as to their programs and policies by an outside group—especially one that consisted of members outside of their particular issue area. This led to requests for and creation of special advisory committees for specialized ocean topics. It also led to agency antagonism to recommendations made by NACOA, as many of these recommendations sought to take a broader look at ocean problems. *Compare* NACOA, FISHERIES FOR THE FUTURE (1982) *with* NOAA FISHERY MANAGEMENT STUDY (1986). A considerable period of the author's time was spent explaining to other senior administrators about the need for outside advice and how the administration benefited from having to respond to intelligent inquiries from a broad-based "blue ribbon" committee. *See Hearings on H.R. 2448, NACOA Authorization Before the Subcomm. on Oceanography*, 97th Cong., 1st Sess. 7-8 (1981) (statement of Martin H. Belsky) [hereinafter *NACOA 1981 Authorization Hearing*].

Moreover, as the budget and staffing for NACOA were within the overall NOAA budget, NACOA became an easy target when other parts of the agency were fighting personnel and funding cuts. *See 1982 NACOA Reauthorization Hearing, supra* note 173, at 115 (NACOA chair never consulted on proposed cut for NACOA budget); *NACOA 1981 Authorization Hearing, supra*, at 8 (explanation that NACOA budget and personnel are part of NOAA allotment).

179. *See* National Oceans Policy Commission Act of 1983, H.R. 2853, 98th Cong., 1st Sess., § 4(a) (1983); National Oceans Policy Commission Act of 1987, H.R. 1171, 100th Cong., 1st Sess., § 3 (1987); Ocean Sci. News, July 15, 1988, at 7.

180. *See* Abel, *supra* note 28, at 13.

181. As one committee indicated: "Within Congress, legislative responsibilities are shared by thirty-nine subcommittees of twelve standing committees in the House of Representatives and thirty-six subcommittees of ten standing committees in the Senate. The institutional obstacles posed by this diffusion of responsibility for systematic and consistent policy-making are substantial." 1983 Ocean Policy Commission, *supra* note 94, at 11.

part of the Committee on Commerce. NOPS had no legislative responsibilities and thus avoided jurisdictional fights. Its task was to review present ocean programs and seek a "comprehensive national policy" for the oceans.[182]

The Study Committee "held extensive hearings, made several studies, and recommended legislation to the Senate."[183] In fact, it even recommended a new National Oceans Administration and the assignment of coordinated and comprehensive ocean management to a special office in that new agency.[184] However, its effectiveness varied with its membership and staff, and it never overcame the bureaucracy's and Congress's single-issue focus and opposition to comprehensive policy-making.[185]

Another effort at overcoming congressional committee divisions in order to address ocean policy involved the establishment of an ad hoc, and later a *select* committee, to draft amendments to the 1953 Outer Continental Shelf (OCS) Lands Act.[186] The leadership of the House of Representatives recognized in 1975 that any attempts to revise the outmoded 1953 law would be hindered by the claims of various congressional committees as to jurisdiction. The leadership therefore secured House approval of the creation of a special OCS committee, consisting of members and staff of the three primary committees claiming jurisdiction, and gave it the task of proposing "comprehensive" legislation to amend the law concerning offshore development.[187]

The attempt at congressional coordination was successful and led to a new law, attempting to balance the various energy, environmental, federal-state relations, and other issues.[188] Yet, it was still focused on a single-issue area—the Outer Continental Shelf Oil and Gas Program—and did not attempt to state or require any comprehensive oceans policy.[189] Moreover, a short time after passage of the new statute, oversight and legislative responsibilities soon passed back to "approximately eleven standing committees of the House."[190]

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182. S. REP. NO. 685, 93rd Cong., 2d Sess. 1 (1974).
183. G. MANGONE, *supra* note 21, at 299.
184. Bleicher, *supra* note 156, at 354.
185. *See* D. BROOKS, *supra* note 35, at 102-03, 213-14.
186. *See* H.R. REP. NO. 1084, 94th Cong., 2d Sess. 1 (1976); H.R. REP. NO. 290, 95th Cong., 1st Sess. 1 (1977); Outer Continental Shelf Lands Act Amendments of 1978, Pub. L. No. 95-372, 92 Stat. 629 (codified at 43 U.S.C. §§ 1801-66 (1983)).
187. *See* Murphy & Belsky, *supra* note 52, at 303.
188. *See generally* Murphy & Belsky, *supra* note 52.
189. *See* OCSLAA, *supra* note 94, at § 202 (codified as amended at 43 U.S.C. § 1332 (1983)) (setting forth "National Policy for the Outer Continental Shelf" by amendment of § 3 of the 1953 law).
190. *See* Jones, *The Development of Outer Continental Shelf Energy Resources*, 11 PEPPERDINE L. REV. 9, 47 n.186 (1983).

Congressional supporters of oceans programs have recognized this inability to secure a comprehensive approach through legislation and oversight.[191] They therefore sought a more informal mechanism to at least make an attempt at such policy-making. Perhaps, if Congress mandated that the agencies develop comprehensive plans and submit regular reports, the federal government would "get its oceans act together."[192]

D. Reports and Plans

As described above, ocean policy history up until the Stratton Commission, and the environmental era that began almost immediately thereafter, is replete with studies and reports that have led to advances in marine science and, later, policy.[193] Since the Stratton Report, however, Congress has been consistently frustrated by its inability to force federal agencies, and itself, to coordinate ocean management, to set priorities in marine-related programs, and to develop agendas for action in the future.[194] As an alternative, it has turned to less-threatening coordinating and planning mechanisms, including the idea of a Stratton II Commission to prepare reports that might force action.

Use of reports as a coordinating mechanism has been only partially effective. For example, in establishing NACOA, Congress mandated that the Committee submit an annual report to review and assess all ocean programs and make recommendations on the National Ocean Program.[195] Similarly, in establishing the National Oceans Policy Study, the Senate sought a means for reporting on the problems of our ocean space and on proposed solutions.[196] While both NACOA and NOPS did issue recommendations for oceans re-

191. *See* 1983 Ocean Policy Commission, *supra* note 94, at 11.

192. *See* D. BROOKS, *supra* note 35, at 230; *see also 1987 Ocean Commission Hearings*, *supra* note 128, at 54-56 (statement of Senator Lowell P. Weicker, Jr.).

193. *See supra* notes 30, 64-75 and accompanying text (NAS 1927 study on ocean policy and interest; NAS Study - Oceanography 1960-70; Navy Report - Ten Years of Oceanography; 1960 House Report on Ocean Sciences and National Security; 1963 Interagency Report - Oceanography - The Ten Years Ahead); *see also supra* notes 1-11, 83 (Stratton Commission).

194. *See* Statement of Hon. Gerry E. Studds, in *1987 Ocean Commission Hearings*, *supra* note 128, at 1-2.

195. *See* Abel, *supra* note 28, at 44; D. BROOKS, *supra* note 35, at 47; COMMERCE OCEAN POLICY, *supra* note 15, at IX-14.

196. *See* S. REP. No. 685, 93rd Cong., 2d Sess. 1 (1974); *see also* G. MANGONE, *supra* note 21, at 298-99.

organization and better policy and management coordination,[197] most reports focused on particular policy issues and not on an overall oceans strategy.[198]

In addition, as new ocean-related programs were established, enacting legislation required annual reports on the implementation of statutory mandates. The focus was on the specific program, and specific program-related issues—not on an overall oceans policy or program.[199] The only real attempt at forcing coordination occurred in the marine pollution area.

In 1978, Congress enacted the National Ocean Pollution Research and Development and Monitoring Act of 1978[200] (later retitled the National Ocean Pollution Planning Act[201]). Congress found a need for a "comprehensive plan" for ocean pollution.[202] To achieve this, it required all federal agencies to submit their proposed pollution programs and budgets to a "lead agency"—NOAA.[203] NOAA, in turn, was to report to Congress and the President with an inventory of existing programs, an analysis of the success of these programs, and recommendations on changes in the federal effort and on coordination.[204]

This effort, limited though it was to pollution and not overall policy, could have formed a basis for developing at least a comprehensive approach to ocean activities and the impact of these activities on marine and coastal areas. In fact, the plan proposed by NOAA, as required by the Act, did include an analysis of the federal effort and responsibilities in waste disposal, mining, energy development, transportation, coastal land use, and coastal and ocean pollutants.[205]

The requirements for reports and plans do serve a useful function. They force agencies to get together and put down on paper information that they otherwise might not collect. They also allow Congress

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197. *See, e.g.*, D. BROOKS, *supra* note 35, at 234 (noting a NACOA Report, *Reorganizing The Federal Effort In Oceanic And Atmospheric Affairs* (1979)); Bleicher, *supra* note 156, at 354-55 (citing a NOPS study on reorganization of ocean functions).

198. *See, e.g.*, NACOA, FISHERIES FOR THE FUTURE (1980); *Hearing Before the National Ocean Policy Study of the Comm. on Commerce, Science and Transportation*, 98th Cong., 2d Sess. (1984).

199. *See, e.g.*, CZMA, *supra* note 94, at § 313; OCSLAA, *supra* note 94, at §§ 314, 406.

200. National Ocean Pollution Research and Development and Monitoring Act of 1978, Pub. L. No. 95-273, 92 Stat. 228 (codified at 33 U.S.C. §§ 1701-09 (1986)) [hereinafter NOPPA].

201. National Ocean Pollution Planning Act, Pub. L. No. 96-255, 94 Stat. 420 (1980).

202. NOPPA, *supra* note 200, at § 2.

203. *Id.* at § 4(a).

204. *See National Ocean Pollution Planning Reauthorization and Great Lakes Pollution Act - H.R. 3600, Hearings Before the Subcomm. on Oceanography*, 97th Cong., 2d Sess. 22-23 (1982) (statement of Martin H. Belsky) [hereinafter *NOPPA 1982 Hearings*].

205. *See* 1981 POLLUTION PLAN, *supra* note 103.

and Executive office staff to see all programs as a unit and to see agency priorities. They could serve as the mechanism for coordinated action.[206]

However, mandates for reports and plans provide only the potential for overcoming ad hoc decision-making. For example, as could be expected, the requirement of a pollution plan never led to real coordination. Agencies assigned low-level staff to work on the program and plan. They merely prepared their own pollution programs and reported them to the Pollution Office in NOAA.[207] Recommendations for action and for funding had to be cleared by the OMB and never became a basis for a coordinated budget review and analysis of the effectiveness of present funding and agency priorities.[208]

The dream of congressional mandates forcing development of a national oceans policy still exists. Representatives in both the Senate and House have proposed legislation, held hearings, and, at least twice, reported out bills on the establishment of a new National Ocean Policy Commission that would develop recommendations on a comprehensive national oceans policy.[209]

The mandate of a new commission to set a national oceans agenda is simply another effort, that must be added to all the previous efforts described in this section, to elevate and coordinate ocean policy. Whether such a commission would be more successful, and could overcome the years of bureaucratic in-fighting in government and the single-issue focus of the ocean constituency is yet to be determined.[210]

While such an effort is certainly not harmful and could be helpful, it will not successfully lead to an integrated approach to ocean issues. Some legal action-forcing mechanism is required. Such a mechanism could be a new international law mandate that has recently evolved that requires a comprehensive ecosystem-based ap-

206. *See NOPPA 1982 Hearings*, *supra* note 204, at 37 (the author gave a similar analysis in response to a question of whether requirement of a pollution plan can lead to successful integration and policy-making).

207. During the author's tenure as NOAA Assistant Administrator for Policy and Planning, the federal coordinating office, titled the National Marine Pollution Program Office, was housed in that office. *See NOPPA 1982 Hearings*, *supra* note 204, at 23 (statement of Martin H. Belsky).

208. *See* 1981 POLLUTION PLAN, *supra* note 103, at 29-35.

209. 1983 Ocean Policy Commission, *supra* note 94, at 12; 1987 OCEAN COMMISSION REPORT, *supra* note 165, at 16; *see also* COASTAL MGMT., Aug. 10, 1988, at 1, 7 (report on H.R. 5069, proposing a national ocean policy commission).

210. *See, e.g.*, *1987 Ocean Commission Hearings*, *supra* note 128, at 89 (statement of opposition by Department of Interior); *id.* at 148 (statement by representative of Sea Grant Association).

proach to the oceans.

IV. THE ECOSYSTEM MODEL

Marine scientists have long accepted that the ocean is a total resource system. This system consists of many species that interact. It is affected by natural changes and by coastal and offshore activities and the pollution that is caused by those activities.[211] The pattern of relationships between species and activities affecting the species and their habitats is defined as an "ecosystem"[212] and the oceans consist of a series of such ecosystems.[213]

An ecosystem model responds to these scientific truisms. It calls for research and regulatory decisions that recognize this "pattern of relationships." Studies must be made of the whole ecologic mosaic in a region. Research must look: at the basic ecosystem structure; the impact of pollution; the impact of exploitation of one species on other species; and the effect of particular controls on pollution and catch levels. The ecosystem model also means that integrated procedures and standards must be established for the conservation and exploitation of living resources and protection of the ocean space, which is the habitat for these resources.[214]

In other words, the premise of this model is simply a plea by scientists for holistic or comprehensive research and management.[215]

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211. Gordon, *Management of Living Marine Resources: Challenge of the Future*, in CENTER FOR OCEAN MANAGEMENT STUDIES, UNIV. RHODE ISLAND, COMPARATIVE MARINE POLICY 163-64 (1981); J. KINDT, MARINE POLLUTION AND THE LAW OF THE SEA 144, 783 (1986); Teclaff & Teclaff, *International Control of Cross-Media Pollution—An Ecosystem Approach*, 27 NAT. RESOURCES J. 21 (1987).

212. T. HOBAN & R. BROOKS, GREEN JUSTICE: THE ENVIRONMENT AND THE COURTS 5 (1987). Another similar definition of an ecosystem is that it "is a functional unit of physical and biological organization with characteristic trophic structure and material cycles, some degree of internal homogeneity, and recognizable boundaries." Lie, *Marine Ecosystems: Research and Management*, in MANAGING THE OCEAN: RESOURCES, RESEARCH, LAW 311, 312 (J. Richardson ed. 1985) (quoting E. Odum, *The Emergence of Ecology as a New Discipline*, 195 SCIENCE 1289-93 (1977)). It consists of both living and nonliving elements. Lie, *supra*, at 312.

213. *See, e.g.*, Sherman, Grosslein, Mountain, Busch, O'Reilly & Theroux, *The Continental Shelf Ecosystem off The Northeast Coast of the United States*, in 27 NETHERLANDS INSTITUTE FOR SEA RESEARCH, ECOSYSTEMS OF THE WORLD: CONTINENTAL SHELVES (1988).

214. *See* Lie, *supra* note 212, at 325; Yuru, *Amassing Scientific Knowledge to Preserve the Marine Environment*, in MANAGING THE OCEAN: RESOURCES, RESEARCH, LAW, *supra* note 212, at 126-27; R. Roe, The Management of Interjurisdictional Fisheries, Proceedings, University of Delaware, Center for Marine Science, "Coastal States are Ocean States" 33, 34 (Apr. 1-3, 1987); A. SPRINGER, THE INTERNATIONAL LAW OF POLLUTION 89 (1983)(establishment of "ecostandards"); *see, e.g.*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NOAA FISHERY MANAGEMENT STUDY 16 (1986) (study conducted by NOAA, the parent administration responsible for fisheries management and coordination of marine pollution research, monitoring, and assessment); 1981 POLLUTION PLAN, *supra* note 103, at 106-09.

215. Frye, Book Review, 26 NAT. RESOURCES J. 653 (1986) (reviewing VARIABIL-

Yet, until recently, these pleas had gone unanswered. Just as the ad hoc approach dominated the historical development of United States ocean policy, the ecosystem or comprehensive approach to marine policy and the actions to implement that policy were historically rejected by other nations and the international community.[216]

A. Traditional International Law and the Comprehensive Model

The refusal by nation-states and the international community to accept a comprehensive approach to ocean policy was premised on traditional international law doctrines. National sovereignty was to be the primary basis for legal rules and the institutions to enforce those rules.[217] Nation-states had the unilateral power to decide what and how activities were to be conducted in their own territory,[218] and how resources within their sovereign territory were managed.[219] Rules for activities, including exploitation of resources, beyond national sovereignty had to be established by each nation-state for its own nationals or flag vehicles,[220] or by international agreement or consensus.[221]

Under these principles, the ocean areas adjacent to a country's coast were part of that country's territory, and therefore each nation

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ITY AND MANAGEMENT OF LARGE MARINE ECOSYSTEMS (K. Sherman and L. Alexander eds. 1986)); *see* Byrne, *Large Marine Ecosystems and the Future of Ocean Studies: A Perspective*, in VARIABILITY AND MANAGEMENT OF LARGE MARINE ECOSYSTEMS, *supra* note 12, at 300.

216. *See* Friedheim, *Ocean Ecology and the World Political System*, in WHO PROTECTS THE OCEAN? 151-53 (J. Hargrove ed. 1975); Carroll & Mack, *On Living Together in North America: Canada, The United States and International Environmental Relations*, 12 DEN. J. INT'L L. & POL'Y 35, 35-37 (1982) (U.S./Canada handling of transnational pollution problems based on ad hoc approach).

217. M. JANIS, AN INTRODUCTION TO INTERNATIONAL LAW 6 (1988); M. SHAW, *supra* note 61, at 6.

218. The classic exposition of this rule of international law can be found in The S.S. Lotus Case (France v. Turkey), 1927 P.C.I.J. (Ser. A) No. 10, at 18-19:

> Now the first and foremost restriction imposed by international law upon a state is that—failing the existence of a permissive rule to the contrary—it may not exercise its power in any form in the territory of another State. In this sense jurisdiction is certainly territorial; it cannot be exercised by a State outside its territory except by virtue of a permissive rule derived from international custom or from a convention.

219. Bilder, *International Law and Natural Resources Policies*, 20 NAT. RESOURCES J. 451, 453 (1980); Oda, *Fisheries Under the United Nations Convention on the Law of the Sea*, 77 AM. J. INT'L L. 739, 739 (1983).

220. This is the so-called "nationality principle." It includes natural and juridical persons and vessels, aircraft, and space craft registered in the state. RESTATEMENT (THIRD), *supra* note 119, at § 402 comments e & h.

221. *See* Statute of International Court of Justice, art. 38(1).

had the exclusive right to design and enforce its own laws for that area.[222] The areas beyond coastal waters, called "high seas," were *res nullius*, belonging to no one,[223] and were to be regulated only by controls placed by a particular nation on its own citizens or vessels.[224]

Of course, the nations of the world could voluntarily agree, either through treaty or accepted custom, to establish rules for their territory or nationals and flag vessels.[225] However, until the 1960s, nation-states exercised their "sovereign" territorial rights and high seas freedoms with little consideration of environmental risks or consequences.[226] Environmental assessment, conservation, and pollution were not major concerns.[227] Neither were cooperation with other countries and the sharing and protection of common resources.[228] As a result, there were few national or international rules governing the oceans and coasts.[229]

As described earlier, a new environmental awareness emerged in the late 1960s that led a number of nations, including the United States, to adopt laws, regulations, and policies to control overexploitation of living marine resources and to limit pollution of the ocean space adjacent to their coasts.[230] The policies established and the rules to implement those policies were, however, "problem-oriented" and singularly focused. Separate policies and regulations were developed for different types of pollution problems and separate management regimes were established for particular species.[231]

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222. *See* Knight, *supra* note 60, at 1-3.

223. MacRae, *supra* note 29, at 187, 195-96.

224. *See* United States v. Flores, 289 U.S. 137 (1933); Lauritzen v. Larson, 345 U.S. 571 (1953).

225. *See The S.S. Lotus*, 1927 P.C.I.J. at 19.

226. *See* Comment, *An Environmental Assessment of Emerging International Fisheries Doctrine*, 4 COLUM. J. ENVTL. L. 143, 144 (1977).

227. T. HOBAN & R. BROOKS, *supra* note 212, at 5. Each nation-state believed that "growth" was the key to future success and thus resources were to be exploited to the maximum. Comment, *supra* note 226, at 144-45.

228. Nation-states were possessive of the resources in their own coastal areas and of the rights of their nationals to exploit resources in the high seas. *See* D. VANDERZWAAG, THE FISH FEUD 41-43 (1983); *see also* Wenk, *Global Principles for National Marine Policies: A Challenge for the Future*, in CENTER FOR OCEAN MANAGEMENT STUDIES, UNIV. RHODE ISLAND COMPARATIVE MARINE POLICY 4-5 (1981); Chapman, *Fishery Resources in Offshore Waters*, in THE LAW OF THE SEA: OFFSHORE BOUNDARIES AND ZONES 87, 95 (L. Alexander ed. 1967); Friedheim, *supra* note 216, at 171-79.

229. *See* Young, *supra* note 38, at 199; Carroz, *Institutional Aspects of Fishery Management Under the New Regime of the Oceans*, 21 SAN DIEGO L. REV. 513, 514-15 (1984).

230. Belsky - 1985 SAN DIEGO, *supra* note 12, at 740-42.

231. Domestic legislation was enacted on an "as perceived as needed" basis. D. BROOKS, *supra* note 35, at 8-9. Government officials were reluctant to act unless there was concrete evidence of a problem, combined with clear public sentiment for restrictions. Walsh, *The Political Context*, in CENTER FOR OCEAN MANAGEMENT STUDIES,

This ad hoc approach also prevailed at the multinational and international level. The international community had recognized as early as the 1950s the need for some cooperative action to handle and control transnational and high seas pollution and resource problems.[232] However, this recognition was tempered by each nation's desire to protect the access of its citizens to the ocean space, and by its concerns about establishing restrictions that could affect its territorial sovereignty.[233]

Thus early agreements were minimal in scope.[234] Later, broader agreements[235] were still focused on particular problems and left ecosystems largely unregulated.[236] While the number of supra-national agreements seems impressive, in fact their impact is unimpressive. The organizations set up to operate these agreements had insufficient authority, and individual nations were often unwilling to cooperate fully in practice.[237]

B. Developing the Policy Basis for the Comprehensive Approach

The early and limited attempts at a national and international response to ocean policy and management formed the basis for broader national and multinational ocean policies and doctrines. Laws and policies were being implemented: (1) to require assessment and monitoring of the impact of development and other activities; (2) to provide more stringent controls over marine pollution; (3) to require plans for protection of the coasts and adjacent waters; and (4) to mandate reconciliation of conflicting uses of the ocean space.[238]

UNIV. RHODE ISLAND IMPACT OF MARINE POLLUTION ON SOCIETY 3 (1982). When they did act, they responded with separate rules to control dumping, land-based discharges, vessel pollution, and offshore activities. When they decided on limits to overfishing, they set up regulatory schemes on a species-by-species basis. *See* Belsky - 1985 SAN DIEGO, *supra* note 12, at 740-42.

232. R. CHURCHILL & A. LOWE, *supra* note 23, at 216 (pollution); Carroz, *supra* note 229, at 515-16 (fisheries).

233. Comment, *supra* note 226, at 143-44; Young, *supra* note 38, at 200.

234. Friedheim, *supra* note 216, at 153-59.

235. R. CHURCHILL & A. LOWE, *supra* note 23, at 200-05 (fisheries), 216-22 (pollution).

236. Carroz, *supra* note 229, at 514-15.

237. Young, *supra* note 38, at 201; Carroll & Mack, *supra* note 216, at 38; Jacobson, *supra* note 61, at 1170.

238. *See* Gold, *The Control of Marine Pollution From Ships: Responsibilities and Rights*, in LAW OF THE SEA INSTITUTE, THE LAW OF THE SEA: WHAT LIES AHEAD? 279 (T. Clingan ed. 1988) (Proceedings of the 20th Annual Conference of the Law of the Sea Institute, July 21-24, 1986); *see also* Sun, *Environmental Awakening in the Soviet Union*, 241 SCIENCE 1033, 1034 (1988) (Soviet Union considering "comprehensive set of environmental laws" that look to ecological protection). *See generally* Lutz, *The Laws of*

Nation-states also desired to secure broader international rights to resources beyond their traditional limited territorial seas and to control activities in extended areas beyond their coastal waters. This led to unilateral claims to hydrocarbons and living marine resources in "exclusive economic zones" as far out as 200 miles from each nation's coasts.[239] These claims, and the domestic statutes that followed these claims, were accompanied by concerns about foreign exploitation and domestic and foreign overexploitation. Further, these claims led to rules and restrictions on development of mineral resources[240] and harvesting of both endangered and commercial species.[241]

Through this process, more of the ocean space came under individual nation-state control. Thus, fewer resources and activities remained unregulated in international waters. By the 1980s, it was estimated that thirty-eight percent of the oceans, over ninety percent of the potential commercially exploitable fish stocks, and eighty-seven percent of offshore hydrocarbons existed within the collective exclusive economic zone of all nations.[242]

These expanded zones also increased the number of overlapping jurisdictional claims and the potential for conflict between adjacent coastal states. Nation-states sought access to, and conservation of, shared resources for their present and future citizens.[243] They also recognized the need to minimize adverse impacts on their coasts and adjacent ocean space from activities of nearby states.[244]

Cooperative action was thus essential to avoid conflicts and assure access and future use of resources. Nation-states became more willing to negotiate broader pollution agreements, establish international environmental standards, and consider new resource management strategies.[245]

A major impact of this new broadened nation-state responsibility

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Environmental Management: A Comparative Study, 24 AM. J. COMP. L. 447 (1976).

239. Pinto, *Emerging Concepts of the Law of the Sea: Some Social and Cultural Impacts*, in MANAGING THE OCEAN: RESOURCES, RESEARCH, LAW, *supra* note 212, at 301. *See generally* MacRae, *supra* note 29, at 210.

240. *See, e.g.*, OCSLAA, *supra* note 94.

241. Young, *supra* note 38, at 202; *see also* Copes, *Marine Fisheries Management in Canada: Policy Objectives and Development Constraints*, in CENTER FOR OCEAN MANAGEMENT STUDIES, COMPARATIVE MARINE POLICY 136 (1981); Farnell, *EEC Fisheries Management Policy*, in CENTER FOR OCEAN MANAGEMENT STUDIES, COMPARATIVE MARINE POLICY, *supra*, at 140; Gordon, *supra* note 211, at 146. While the major purpose of most of these laws was to provide exclusive access for a particular nation's citizens to the resources off that country's coasts, these laws also included detailed provisions for the protection of fisheries and their habitats. *See* Young, *supra* note 38, at 207.

242. R. CHURCHILL & A. LOWE, *supra* note 23, at 126.

243. *See* D. VANDERZWAAG, *supra* note 228, at 95-98.

244. *See* Comment, *Compensating Private Parties for Transnational Pollution Injury*, 58 ST. JOHN'S L. REV. 528, 528-33 (1984).

245. *See* Boczek, *The Concept of Regime and the Protection of the Marine Environment*, 6 OCEAN Y.B. 271, 282-87 (1986).

for ocean policies and management was consideration of a comprehensive approach to the oceans. A new environmental sensitivity was developing among the public. This sensitivity focused on the scientific consensus that the oceans could not continue to be managed on an ad hoc basis. A new ocean policy, and domestic laws and international agreements to implement this policy, must address the interaction of pollution and resource management.[246]

Faced with this increased public concern about the need for environmental protection, and with increased obligations over a broader patrimonial sea, government officials in many nations began to look at the connection between environmental and resource management programs.[247] Extended jurisdiction made it more likely that an ecosystem or large parts of an ecosystem were within one nation's ocean space. Regulators began to recognize the impact of exploitation of one resource over others and the cumulative impact of individual policies on the whole ecological mosaic.[248]

Jurisdictional overlaps, the desire to assure access to shared resources, and the need for multinational cooperation necessitated consideration of a comprehensive approach. Transnational resources also existed in ecosystems, and efforts to control activities and exploit shared and open seas resources had to take that scientific fact into account.[249]

As a result, international practice soon paralleled that of individual nations. In reviewing their common international obligations, the nations of the world accepted a duty to cooperate in the use of resources in order to avoid harm.[250] Multinational agreements and policies soon focused on a shared responsibility to take a comprehensive

246. T. HOBAN AND R. BROOKS, *supra* note 212, at 6-7; E. BORGESE, THE FUTURE OF THE OCEANS: A REPORT TO THE CLUB OF ROME 2 (1986); Levy, *Towards an Integrated Marine Policy in Developing Countries*, 12 MARINE POL'Y 326, 328 (1988). A common public expression of this need for a comprehensive approach was the need to avoid the "tragedy of the commons." An otherwise "rational being" seeks only to maximize his or her own gain and thus increases his or her own exploitation of resources and his or her own discharge of pollutants. These individual actions are taken without regard to their cumulative and comprehensive adverse effects. Hardin, *Tragedy of the Commons*, 162 SCIENCE 1243, 1244-45 (1968).

247. *See* Wolf, *On the Brink of Extinction: Conserving the Diversity of Life*, 78 WORLDWATCH PAPER 39-41 (June 1987) (nation-states are using data about ecosystems in development plans); S. LYSTER, INTERNATIONAL WILDLIFE LAW 299 (1985) (wildlife treaties now premised on role species play in the ecosystems in which they occur); *see, e.g.*, Levy, *supra* note 246, at 332 (India), 334 (Sri Lanka).

248. *See* Gordon, *supra* note 211, at 163-64.

249. Lie, *supra* note 212, at 325.

250. *See* Bilder, *supra* note 219, at 459 (describing art. 3 of the U.N. Charter of Economic Rights and Duties of States).

look at the ocean space.[251] In establishing joint arrangements for transboundary pollution or resource management, countries adopted requirements that considered the environmental impact of particular activities.[252]

By the late 1970s, the international rhetoric had changed from one of unlimited nation-state authority and power to one of "responsible stewardship."[253] A comprehensive approach was accepted as sound national and international policy, but was it binding on nation-states as law? The next section of this article reviews the bases for the establishment of new international law rules, traces the emergence of the comprehensive approach as a legal doctrine, and concludes that a comprehensive ecosystem approach to ocean management and policy is now binding international law.

C. Developing a New Rule of International Law

Municipal laws are established by the legislatures or political executives of each nation-state.[254] International law is not promulgated or enforced by any worldwide legislature or agency.[255] Rather, it is established and enforced by the nations of the world, either individually or collectively.[256]

The "rules" of international law develop informally.[257] They result from explicit or implicit acceptance by the international community of nations.[258] This acceptance is shown by: (1) international conventions; (2) the practice of nations—or custom; and (3) acceptance by

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251. Bilateral and multilateral agreements that separately dealt with unique marine resource or pollution problems were recognized as only the first step. *See* Goldie, *International Maritime Environmental Law Today - An Appraisal*, in WHO PROTECTS THE OCEANS 121 (L. Hargrove ed. 1975). The community of nations accepted and adopted the arguments of scientists that the oceans were unique international resources and thus the responsiblity of the world community. *See* Speranskaya, *Marine Environmental Protection and Freedom of Navigation in International Law*, 6 OCEAN Y.B. 197 (1986).

252. *See* Miller, *The Earth's Living Terrestrial Resources: Managing Their Conservation*, in ENVIRONMENTAL PROTECTION: THE INTERNATIONAL DIMENSION 240, 245, 249-50, 257-60 (1983); McCaffrey, *The Work of the International Law Commission Relating to the Environment*, 11 ECOLOGY L.Q. 189, 189 n.4 (1983); *see, e.g.*, Carroll & Mack, *supra* note 216, at 37 (program for research and monitoring in Great Lakes "ecosystem"); *see also* Boczek, *supra* note 245, at 282 (trend towards more comprehensive regimes); Lutz, *supra* note 238, at 492 n.230 (growing acceptance of international assessment approaches).

253. *See, e.g.*, Johnson, *Comments on Stewardship*, in COASTAL STATES ORGANIZATION, FINAL REPORT - OCEANIC AND ATMOSPHERIC POLICY ISSUES OF THE 1980's - THE ROLE OF THE NOAA ORGANIC ACT 159 (1980).

254. *See* L. HENKIN, HOW NATIONS BEHAVE 24-25 (1968).

255. *See* RESTATEMENT (THIRD), *supra* note 119, ch. 1 introductory note at 17.

256. *See* M. SHAW, *supra* note 61, at 6.

257. *See* Reisman, *The Teaching of International Law in the Eighties*, 20 INT'L LAW. 987, 991 (1986); RESTATEMENT (THIRD), *supra* note 119, ch. 1, introductory note at 19.

258. RESTATEMENT (THIRD), *supra* note 119, § 102 (1).

the world community as a general principle of law.[259]

An international convention is binding between the parties to that convention but might also indicate an accepted state practice or custom when such agreements, or the activities of nations in preparing that treaty, indicate wide acceptance by the world community.[260] State practice, or custom, may be shown not only by a pattern of state behavior, but also by seemingly inconsistent acts, when the nation-state seeks to justify such behavior as in accord with the rule.[261]

A "general principle" of law may be shown by looking at the laws of the major legal systems of the world for common concepts;[262] but, like custom, it must be a doctrine that is accepted as a binding international obligation.[263] In fact, a principle common to the major legal systems may evolve into a customary rule or form the basis for a treaty codification.[264]

One or more of these sources may form the basis[265] for showing acceptance by the world community of a legal obligation and thus a rule of law.[266] Proof through these sources of the existence of a rule of international law is often difficult and complex.[267] Except for

259. *See* Statute of the International Court of Justice, art. 38(1); *see also* RESTATEMENT (THIRD), *supra* note 119, § 102.

260. *See* RESTATEMENT (THIRD), *supra* note 119, § 102(3); International Law Association, American Branch, *Report of the Committee on the Formation of Customary Law*, in INTERNATIONAL LAW ASSOCIATION, AMERICAN BRANCH, PROCEEDINGS 106-07 (1987-88) [hereinafter INTERNATIONAL LAW ASSOCIATION PROCEEDINGS].

261. INTERNATIONAL LAW ASSOCIATION PROCEEDINGS, *supra* note 260, at 108.

262. RESTATEMENT (THIRD), *supra* note 119, § 102 reporter's note 7.

263. The distinction between a customary rule and general principle of law is not always clear. INTERNATIONAL LAW ASSOCIATION PROCEEDINGS, *supra* note 260, at 110-11. In fact, some argue that a general principle means merely a principle, whether developed by domestic state practice or not, that is accepted by nation-states as customary international law. RESTATEMENT (THIRD), *supra* note 119, § 102 reporter's note 7.

264. RESTATEMENT (THIRD), *supra* note 119, § 102 reporter's notes 5 & 7. One commentator has called general principles of law "gap fillers" that substantiate determinations of customary international law by establishing inherent norms that can be changed by nation-states by protest or argreement. *See* M. JANIS, *supra* note 217, at 49; *see also* M. SHAW, *supra* note 61, at 81-84; RESTATEMENT (THIRD), *supra* note 119, § 102 comment 1.

265. A new rule of international law may be based on more than one of these sources. *See* M. JANIS, *supra* note 217, at 4.

266. Whether through treaty or custom, or even state practice, an international law doctrine only exists if it is accepted as *opinio juris* - that is, that states accept the rule out of sense of *legal obligation. See* McDougal & Reisman, *The Prescribing Function in the World Constitutive Process: How International Law is Made*, in M. McDOUGAL & W. REISMAN, INTERNATIONAL LAW ESSAYS 362-65 (1981). *Opinio juris* may, of course, be inferred from acts or omissions. RESTATEMENT (THIRD), *supra* note 119, § 102 comment C.

267. *See* L. HENKIN, *supra* note 254, at 25.

those cases where a multilateral treaty is accepted by all nations of the world, rules of international law do not suddenly occur, but rather, crystallize.[268]

The process of discerning whether a new rule exists is often the result of articulation of the new rule and its sources in judicial decisions by national and international courts, the writing of scholars, and individual or collective pronouncements of governments.[269]

For example, decisions by respected jurists in some nation-states, and by international courts and tribunals, can often bring a rule out of "twilight existence"[270] by either restating it or even creating it.[271] Similarly, the writing of scholars or "publicists" is often a means for nation-states, courts, and other scholars, to show that there is a consensus that a rule of international law exists.[272]

Finally, nation-state acceptance of a rule of law can be shown by words, even without action. Even if a treaty is not ratified by a nation-state, the legal rules in that treaty may become customary law when representatives of nation-states indicate that the treaty merely "codifies" existing law or argue that some of the principles in that draft convention "express consensus" of the international community on a rule of law.[273]

Similarly, the nature of the legal and political arguments made by a nation-state can indicate acceptance of a norm or rule of international law. Custom can be established by "legal practice," consisting of the claims and arguments of states in the context of concrete dis-

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263. Even with generally accepted multinational treaties, only some "make new law." Many seek to codify and crystallize emerging customary law. RESTATEMENT (THIRD), *supra* note 119, § 102 comment f.

269. RESTATEMENT (THIRD), *supra* note 119, § 103(2).

270. New Jersey v. Delaware, 291 U.S. 361 (1934) (Cardozo, J.).

271. M. MCDOUGAL & W. REISMAN, *supra* note 266, at 369.

272. The International Court of Justice includes the "teachings of the most highly qualified publicists" as "subsidiary means" for the determination of rules of law. Statute, International Court of Justice, art. 38(1)(d). Thus, the more respected the group of scholars, and the more they agree, the more likely their opinion that the rule exists will be accepted. *See* RESTATEMENT (THIRD), *supra* note 119, § 103 reporter's note 1; M. SHAW, *supra* note 61, at 89. *See generally*, Lachs, *Teachers and Teaching of International Law*, 151 REC. DES COURS 163-252 (1976-III).

273. *See* INTERNATIONAL LAW ASSOCIATION PROCEEDINGS, *supra* note 260, at 106; Charney, *International Agreements and the Development of Customary International Law*, 61 WASH. L. REV. 971, 983 (1986); Sohn, *"Generally Accepted" International Rules*, 61 WASH. L. REV. 1073, 1074 (1986) [hereinafter Sohn, *Washington Article*]. *Professor Sohn argues that multilateral negotiations on a treaty can lead to the establishment of a rule of customary international law. When a rule is agreed to at such a multinational conference, the new norm is presumed to be binding as custom once a number of interested states behave in conformity with the rule. In effect, the agreement by the nation-states at the conference establishes a "consensus" that a rule of customary law exists. See* Sohn, *The Law of the Sea: Customary International Law Developments*, 34 AM. U.L. REV. 271, 279 (1985) [hereinafter Sohn, *American University Article*]; *see, e.g.*, Case Concerning Delimitation of the Maritime Boundary in the Gulf of Maine Area (Canada v. U.S.), 1984 I.C.J. 246, 294 para. 94.

putes. Even if actual practice is inconsistent with an alleged rule, if the action is politically justified as being in accord with the rule, or an exception to the general rule, it is indicative of the emergence of that rule into binding custom.[274]

Joint statements of nation-states, through United Nations Declarations or Resolutions, can also be proof of the existence of a rule of international law.[275] Some statements by the United Nations General Assembly or U.N. Specialized Agencies purport to declare existing international law. The more nations that vote for or acknowledge the Declaration or Resolution as stating the law, the more likely that the rules in those documents are, in fact, customary international law.[276] In other cases, Declarations or Resolutions can "create" new norms when they are passed by large majorities as they can, in certain instances, indicate an "instant" intention by these nations—and thus a "state practice"—to be bound by these new norms.[277]

The next part of this article will look at these sources of international law and the various methods to prove that a rule of international law exists. Using these standards and tests, it will show that the ecosystem model has evolved into a new and binding legal doctrine. This evolution has been recently confirmed by the acceptance of a new international "oceans policy" as expressed in the 1982 United Nations Convention on the Law of the Sea (UNCLOS).[278]

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274. INTERNATIONAL LAW ASSOCIATION PROCEEDINGS, *supra* note 260, at 107; *see, e.g., id.* at 108 (citing the decision of the International Court of Justice in *The Nicaragua Case*, Merits, para. 186 (1986)). When nation-states seek to justify their actions as being in accord with a norm of international law, even if it, in fact, is not that state's "practice," this helps to confirm the existence of that particular rule. State practice can be shown not only by what nations do, but also by what they say. M. AKEHURST, A MODERN INTRODUCTION TO INTERNATIONAL LAW 35 (3d ed. 1977).

275. Sohn, *American University Article*, *supra* note 273, at 278; *see* RESTATEMENT (THIRD), *supra* note 119, § 103 reporter's note 2.

276. M. AKEHURST, *supra* note 274, at 34; Schachter, *Resolutions of the General Assembly as Evidence of Law*, 178 REC. DES COURS 110, 114-21 (1982-V) (question of intent of adherents).

277. M. SHAW, *supra* note 61, at 91; McDougal and Reisman, *supra* note 266, at 363; *see, e.g.*, Advisory Opinion on Western Sahara, 1975 I.C.J. 12 (series of United Nations General Assembly Resolutions indicates that the right of self-determination for non-self-governing territories had become a norm of international law).

278. *See* Reagan Ocean Statement, *supra* note 108 (UNCLOS, except for provisions on mining, states governing oceans policy); *see* Boczek, *supra* note 119, at 393 (UNCLOS codifies for the oceans general environmental law principles—especially as they are related to a comprehensive obligation to protect the marine environment).

D. *Evolving International Law and the Ecosystem Model*

As described above, nation-states have recognized the inter-connected nature of oceans policy and the need to coordinate separate policies on an ecosystem basis to assure both maximum protection of their oceans and coasts and the future continued exploitation of the oceans resources. They have been moving in their actual state practice toward applying this ecosystem approach.[279]

This individual practice has been confirmed by the collective actions of nation-states in evolving new rules of state responsibility generally, and in specific United Nations resolutions and reports and multilateral agreements applying this responsibility to the environment and the ecosystem model.

Nation-states accept a new obligation to prevent harm to their own environment and resources, and also harm to the environment of other nation-states and to adjacent and shared resources.[280] They also accept as binding customary law an obligation of rational and equitable utilization of their resources.[281] Prevention of harm and "rational and equitable use," of course, mean that resources and uses must be studied and managed in a comprehensive manner.[282]

In 1972, the United Nations General Assembly accepted this multinational responsibility and endorsed[283] a Declaration and Principles and Recommendations prepared that year by the United Nations

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279. Boczek, *supra* note 245, at 290; *see* Lutz, *supra* note 238, at 450 (trend by nation-states toward comprehensive environmental management institutions premised on "ecological control," citing references to ocean and pollution); *see, e.g.*, R. Roe, *supra* note 214, at 33 (representative of U.S. National Marine Fisheries Service states that "our goal should be to provide an ecosystem-wide management program for fish and other living marine resources"); Levy, *supra* note 246, at 341-42 (governments adopting different approaches to coordinating and integrating marine policies).

280. Trail Smelter Case (U.S. v. Canada), 3 U.N. Rep. Int. Arb. Awards 1911, 1965 (1941) (air pollution); *see* Bilder, *supra* note 219, at 459-60; Goldie, *Equity and the International Management of Transboundary Resources*, 25 NAT. RESOURCES J. 665, 675, 698 (1985); *see e.g.*, Charter of Economic Rights and Duties of States, art. 3, G.A. Res. No. 3281, *reprinted in* 14 I.L.M. 252, 255 (1975).

281. *See* Handl, *National Uses of Transboundary Air Resources: The International Entitlement Issue Reconsidered*, 26 NAT. RESOURCES J. 405, 410-11 (1986); Handl, *The Principle of 'Equitable Use' As Applied to Internationally Shared Natural Resources: Its Role in Resolving Potential International Disputes over Transboundary Pollution*, 14 REVUE BELGE DE DROIT INT'L 40, 44-45, 52-53 (1978); RESTATEMENT (THIRD), *supra* note 119, §§ 601, 602; *see also* Szekely, *Tuna in the Eastern Tropical Pacific*, in LAW OF THE SEA INSTITUTE, THE LAW OF THE SEA: WHAT LIES AHEAD? 179 (T. Clingan ed. 1988) (Proceedings of the 20th Annual Conference of the Law of the Sea Institute, July 21-24, 1986) (doctrine applicable to oceans); Bilder, *supra* note 219, at 459-60 (analyzing doctrine applicable to resource management and coastal pollution).

282. *See* Harville, *State-Federal Interactions for Management of Shared Fisheries Resources*, in COASTAL STATES ORGANIZATION, FINAL REPORT - OCEANIC AND ATMOSPHERIC POLICY ISSUES IN THE 1980'S - THE ROLE OF THE NOAA ORGANIC ACT 138 (1980); White, *Environment*, 209 SCIENCE 183, 187 (1980).

283. G.A. Res. 2994, 27 U.N. GAOR Supp. (No. 30) at 42, U.N. Doc. A/8730 (1972).

Conference on the Environment held in Stockholm (Stockholm Declaration).[284]

The Stockholm Declaration assumed that "to achieve [the international goal of preserving and protecting the environment], governments and peoples [must] exert common efforts for the preservation and improvement of the human environment."[285] Through this Declaration, the international community stressed the fact that everything is part of an interdependent system, and that pollution and resource management are inextricably intertwined.[286]

Nation-states have the individual obligation to "safeguard and wisely manage,"[287] and to "take all possible steps to prevent pollution."[288] To satisfy these obligations "to achieve a more rational management of resources and thus to improve the environment, [nations must] adopt an integrated and coordinated approach to their development planning so as to ensure [compatibility] with the need to protect and improve the human environment . . . ."[289]

Nation-states also have a collective responsibility. "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources . . . and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."[290] To fulfill this responsibility, they must take steps, by "cooperation through multilateral or bilateral arrangements or other appropriate means . . . to effectively control, prevent, reduce and eliminate adverse environmental effects . . . ."[291]

The premise of the Stockholm Declaration and later United Nations Resolutions, and bilateral and multilateral treaties,[292] is that

284. Declaration of the U.N. Conference on the Human Environment, U.N. Doc. A/Conf. 48/14, *reprinted in* 11 I.L.M. 1416 (1972) [hereinafter Stockholm Declaration]; *see* Bilder, *supra* note 219, at 460; Comment, *Transboundary Pollution From Mexico: Is Judicial Relief Provided by International Principles of Tort Law?*, 10 HOUSTON J. INT'L L. 105, 111-12 (1987).

285. Stockholm Declaration, *supra* note 284, at 1416, preamble ¶ 7.

286. *See* Smith, *The United Nations and the Environment: Sometimes a Great Notion?*, 19 TEX. INT'L L. REV. 335, 338 (1984).

287. Stockholm Declaration, *supra* note 284, principle 4.

288. *Id.* principle 7.

289. *Id.* principle 13.

290. *Id.* principle 21.

291. *Id.* principle 24.

292. *See* Bilder, *supra* note 219, at 460-63 (discussing Draft Principles of the United Nations Environmental Program of 1978 and various treaties); International Law Association, Report of the 52d Conference, Helsinki Rules on the Uses of the Waters of

this cooperative approach must be based on the ecosystem model. Thus, the Declaration states: "The natural resources of the earth including the air, water, land, flora and fauna and especially representative samples of natural ecosystems must be safeguarded for the benefit of present and future generations . . . ."[293] In a later Draft World Charter for Nature, the United Nations General Assembly reaffirmed this thesis when it called for the actions by the community of nation-states and their citizens to be conducted in such a way so as not to threaten the "integrity of the ecosystems and organisms with which they coexist."[294]

Evidence of the emergence of this new mandate for a comprehensive ecosystem approach can be found in recent multilateral agreements.[295] Under the 1980 Convention on the Conservation of Antarctic Living Marine Resources, for example, management is based on a total ecosystem conservation standard.[296] In addition, the Convention requires signatory states to conduct their affairs so as to minimize risks to the Antarctic marine ecosystem.[297]

Similarly, the Antarctic Treaty Consultative Parties are now in the final stages of submitting a Convention for the management and exploitation of Antarctica's nonliving resources. The most recent drafts of proposed elements of this Convention are premised on maintenance of the conservation elements, including the ecosystem standard, of the living resource Convention.[298]

Finally, in the recent Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, the nations of the South Pacific Region "recognized" the special ecological nature of the region and the potential threat to the "ecological equilibrium" of that region. They agreed in their domestic laws and in their

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International Rivers 477 (Aug. 20, 1966); Annex I, Background and Objectives, ¶ 15, Agreement on the Action Plan for the Environmentally Sound Management of the Common Zambezi River System (May 28, 1987), Botawana-Mozambique-Tanzania-Zambia-Zimbabwe, 27 I.L.M. 1109 (1988) (plan for management must be for "whole [Zambezi] River System") [hereinafter Zambezi River Treaty].

293. Stockholm Declaration, *supra* note 284, principle 2.

294. On October 30, 1980, the United Nations General Assembly adopted, without vote, a Resolution calling for a Draft World Charter for Nature. G.A. Res. 35/7, 35 U.N. GAOR Supp. (No. 48) at 14, U.N. Doc. A/35/48 (1980), *reprinted in* 20 I.L.M. 462 (1980); *see* Smith, *supra* note 286, at 341.

295. *See* Zambezi River Treaty, *supra* note 292; Boczek, *supra* note 119, at 375-76, 394; Joyner, *Antarctica and the Law of the Sea: An Introductory Overview*, 13 OCEAN DEV. & INT'L L. 277, 281 (1983); Oxman, *Antarctica and the New Law of the Sea*, 19 CORNELL INT'L L.J. 211, 233 (1986).

296. Convention for the Conservation of Antarctic Living Marine Resources, May 7, 1980, preamble & art. II (3), T.I.A.S. No. 8826, *reprinted in* 19 I.L.M. 841 (1980).

297. *Id.* at arts. V, XXI, XXII.

298. *See* Laughlin, The Antarctic Treaty System as a Conservation System, paper presented at the Center for Oceans Law and Policy Seminar, "The Polar Regions" 9-10 (1987); *see also* Joyner, *The Southern Ocean and Marine Pollution: Problems and Prospects*, 17 CASE W. RES. J. INT'L L. 165, 185-89 (1985).

international arrangements to "take all appropriate measures" to "control pollution . . . and to ensure sound environmental management and development of natural resources."[299]

This language, though not using the exact words, is the ecosystem model. By including this language, the signatories of the South Pacific Region Convention, like those of the Antarctic Conventions, assume that the ecosystem model is in accordance with international law.[300]

Legal scholars, looking at this individual and collective state practice, argue that their long existing preference for a comprehensive ecosystem approach to the oceans is now the evolved rule of international law. They point to UNCLOS as proof that the evolution is complete.[301]

E. The United Nations Convention on the Law of the Sea

Perhaps, the strongest support for a new international law mandate of comprehensive ocean ecosystem management can be found in the text of UNCLOS. Under the 1982 Convention, nation-states have a general "obligation to protect and preserve the marine environment."[302] They are individually and collectively responsible for their ocean space, and, with other nations, responsible for all the world's seas.[303]

Each nation is to control activities in its ports, its coastal areas, and its exclusive economic zone. It also must control the activities of

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299. Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, Nov. 25, 1986, arts. 4(1), 5(1), 26 I.L.M. 38 (1987).

300. The Convention explicitly states that actions must be "in conformity with international law." The inherent assumption is that by providing for comprehensive coordinate pollution and resource management—the ecosystem approach—they are acting with such conformity. *See id.* at arts. 5(1), 5(4).

301. *See* Speranskaya, *supra* note 251, at 197-98; Oxman, *supra* note 295, at 233; Sohn, *Implications of the Law of the Sea Convention Regarding the Protection and Preservation of the Marine Environment*, in LAW OF THE SEA INSTITUTE, THE DEVELOPING ORDER OF THE OCEANS 105 (1984); Levy, *supra* note 246, at 326; *see also* Van Dyke & Heftel, *Tuna Management in the Pacific: An Analysis of the South Pacific Forum Fisheries Agency*, 3 U. HAW. L. REV. 1, 53-55 (1981) (UNCLOS requirements for comprehensive management mandate coordinated management for all species in regional fisheries agreements).

302. UNCLOS, *supra* note 17, at art. 192; *see* Gold, *supra* note 238, at 285; Juda, *The Exclusive Economic Zone: Compatibility of National Claims and the UN Convention on the Law of the Sea*, 16 OCEAN DEV. & INT'L L. 1, 39 (1986).

303. *See* Pardo, *The Convention on the Law of the Sea: A Preliminary Appraisal*, 20 SAN DIEGO L. REV. 489, 490 (1983); Sohn, *supra* note 301, at 108; Speranskaya, *supra* note 251, at 198.

its nationals and vessels in all ocean areas.[304] These responsibilities include obligations to minimize and control pollution.[305] They also include an obligation to manage fisheries on an ecosystem model—in order to avoid overexploitation, to adequately consider the environmental impacts on habitats, and to sufficiently consider the interrelationships of species.[306]

Specifically, the provisions for management of the living resources of the sea adopt the "maximum sustainable yield" standard, but say that this standard has to be qualified by "relevant environmental and economic factors," and to take into account the "interdependence of stocks."[307] In addition, nation-states, in managing specific resources, must "take into consideration the effects on species associated with or dependent upon harvested species with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened."[308] Finally, the Convention requires nation-states to include in pollution measures all those "necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life."[309]

All of the provisions of the Convention are intended to be read as a whole.[310] When read in such a manner, the provisions, as described above, provide for the "ecosystem approach."[311]

UNCLOS requires that its provisions be implemented in domestic laws and in bilateral and multilateral treaties and other cooperative arrangements.[312] Thus, for those nations that have ratified UNCLOS, a comprehensive approach is mandated.[313]

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304. UNCLOS, *supra* note 17, at arts. 218 (ports), 220 (coasts), 56 (EEZ), 94 (obligation of flag state for vessels on the high seas), 211 (pollution from vessels), 217 (enforcement of standards by flag states against vessels), 117-18 (obligation over nationals for fishing). For a provision-by-provision analysis of the relevant articles of the Convention applicable to these requirements, see Sohn, *supra* note 301, at 106-08.

305. UNCLOS, *supra* note 17, at arts. 194, 207, 210.

306. *Id.* at arts. 61 (EEZ), 63 (shared stocks), 64 (highly migratory species), 65 (marine mammals), 66 (anadromous stocks), 67 (catadromous species), 117-20 (high seas).

307. *See, e.g., id.* at art. 61(3).

308. *Id.* at art. 61(4).

309. *Id.* at art. 194(5).

310. *See id.* at preamble: "The States Parties to this Convention . . . [c]onscious that the problems of ocean space are closely interrelated and need to be considered as a whole . . . ."

311. *See* Boczek, *supra* note 119, at 394; Burke, *The Law of the Sea Convention and Fishing Practices of Nonsignatories, with Special Reference to the United States*, in CONSENSUS AND CONFRONTATION: THE UNITED STATES AND THE LAW OF THE SEA, LAW OF THE SEA INSTITUTE WORKSHOP 319 (J. Van Dyke ed. 1985).

312. UNCLOS, *supra* note 17, at arts. 117-18 (obligation for fishing), 194, 197 (general obligation for pollution control), 207, 213 (obligation for pollution from land-based sources), 210, 216 (dumping), 211, 217-20 (vessel pollution).

313. By definition, of course, a treaty is binding on those states who have agreed to it. This is the doctrine of *pacta sunt servanda*. Vienna Convention on the Law of the

The ecosystem approach, however, is not only binding on signatories to the treaty but to all nation states—as a statement of customary international law. The nations of the world, by their consensus on the provisions on the treaty, have "codified" and "progressively developed"[314] the law of the sea provisions dealing with environmental protection and resource management and, thus, the comprehensive approach.[315]

This acceptance of the treaty provisions has been confirmed by state practice. UNCLOS has established a series of rules and principles, including individual and joint responsibility, for comprehensive and interactive pollution control and resource management, that have now become part of customary international law.[316]

The basic objectives and obligations of the Convention for comprehensive ecosystem management are being followed in nation-state legislative and treaty practice.[317] Even when nation-states have nonconforming practice, they attempt to justify their conduct in terms of the provisions of the Convention.[318] Finally, the scholarly consensus, and the most recent decisions of international courts, accept the rele-

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Treaties, art. 26, U.N. Doc. A/Conf. 39/27, *reprinted in* 8 I.L.M. 679 (1969) [hereinafter Vienna Convention on the Law of Treaties]; *see* H. KELSON, PRINCIPLES OF INTERNATIONAL LAW 454-56 (R. Tucker 2d rev. ed. 1966); RESTATEMENT (THIRD), *supra* note 119, § 321, § 321 comment a.

314. *See* UNCLOS, *supra* note 17, at preamble para. 7.

315. *See* Kwaitkowski, *Convention and Optimum Utilization of Living Resources*, in LAW OF THE SEA INSTITUTE, THE LAW OF THE SEA: WHAT LIES AHEAD? 246-47 (T. Clingan ed. 1988) (Proceedings of the 20th Annual Conference of the Law of the Sea Institute, July 21-24, 1986) (consensus indicates that states intended to create legally binding principles and rules and thus the provisions concerning fisheries are hardening into custom); *see also* MacRae, *supra* note 29, at 221-22; Sohn, *American University Article*, *supra* note 273, at 279-80; RESTATEMENT (THIRD), *supra* note 119, pt. V, introductory note at 5; *id.* §§ 502, 514 comments f & i, 521 comments c & e, 603-04.

Even those states, like the United States, which have refused to ratify the Convention have accepted the provisions of the Treaty (except for those on deep seabed mining, tuna, and dispute settlement) as stating present customary international law. *See* Reagan Ocean Statement, *supra* note 108; Malone, *supra* note 119, at 59-61; RESTATEMENT (THIRD), *supra* note 119, pt. V, introductory note at 5.

316. *See* Kwaitkowski, *supra* note 315, at 248, 265; Szekely, *supra* note 281, at 179-80.

317. *See* Kwaitkowski, *supra* note 315, at 252, 258-59, 265; Gold, *supra* note 238, at 285, 287; McDorman, *Implementation of the LOS Convention: Options, Impediments and the ASEAN States*, 18 OCEAN DEV. & INT'L L. 279, 285-87 (1987); Levy, *supra* note 246, at 326-27 (UNCLOS establishes "comprehensive legal framework within which the development of all possible use of ocean space and its resources will take place"; each nation has "responsibility to adopt the necessary measures to introduce the marine dimension into their national development strategies"). *Compare* Lee, *The New Law of the Sea and the Pacific Basin*, 12 OCEAN DEV. & INT'L L. 247, 259-61 (1983) (calling on nation-states to enact legislation to implement UNCLOS).

318. *See* Kwaitkowski, *supra* note 315, at 265.

vant provisions of the treaty as representing the new "state practice" and thus binding law.[319]

Because these UNCLOS-based rules are binding, government officials have an international obligation to seek to conform their countries' practices to that law. The next part of this article will describe what those obligations generally entail.

V. Scope of the Ecosystem Mandate

The scope of the ecosystem model is broad. It includes not just management arrangements that consider both pollution and resources, but also a requirement for basic science, assessment, and monitoring as a basis for comprehensive ecosystem regulation.[320]

Adequate regulatory controls on activities and limitations on pollutants must first be based on assessment of the present status of the marine environment. Changes to that environment must then be monitored.[321] A continual evaluation of current information must be tied into periodic revision of restrictions.[322]

Part of the ecological balance is, of course, the organisms that live in the oceans. Living marine resources are constrained by ecological laws. Biological and nonbiological factors interact and condition each other within the same ecosystem. Environmental studies must therefore not only analyze the impact of activities on such resources and their habitats, but also the productivity levels of organisms within particular food chains and the effects of various allowable levels of exploitation on this productivity.[323]

Just as living resource management must be based on an ecosystem model, basic research, assessment, and monitoring of the oceans must also focus on the entire ecological mosaic in a region, including

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319. *See, e.g.*, Sohn, *The Law of the Sea Crisis*, 58 St. John's L. Rev. 237, 266 (1984); MacRae, *supra* note 29, at 221-22; Restatement (Third), *supra* note 119, pt. V, introductory note at 5; *see also* Case Concerning Delimitation of the Maritime Boundary of the Gulf of Maine (Canada v. U.S.), 1984 I.C.J. 246, 294 (UNCLOS provisions on exclusive economic zone and Continental Shelf "were adopted without any objections" and "may be regarded as consonant at present with general international law").

320. *See* Belsky - 1985 San Diego, *supra* note 12 (management); Belsky - 1987 LOSI, *supra* note 12 (assessment and monitoring); Belsky - 1988 AAAS, *supra* note 12 (science); *see also* Levy, *supra* note 246, at 337-38 (research and monitoring).

321. Yuru, *supra* note 214, at 127; *see* Wilkinson & Connor, *The Law of the Pacific Salmon Fishery: Conservation and Allocation of a Transboundary Common Property Resource*, 32 Kan. L. Rev. 17, 107 (1983) ("The health of a fishery is determined by the interaction of . . . the biology of the fish, the degree of fishing pressure upon them, and the condition of their physical environment.").

322. *See* Steele, *Strategies for Marine Pollution Research*, in Center for Ocean Management Studies, Impact of Marine Pollution on Society 282 (1982).

323. Yuru, *supra* note 214, at 127; *see* Sherman, *Measurement Strategies for Monitoring and Forecasting Variability in Large Marine Ecosystems*, in Variability and Management of Large Marine Ecosystems, *supra* note 12, at 206-07.

such factors as: pollution and its impact on a particular species and on other species in its chain; resource catch levels; and the impact of exploitation of one species on other species. In addition, these scientific studies must also analyze the impact of particular controls on pollution and catch levels and the impact of fishery limitations on the reproductivity of a particular species and other species affected by the productivity of that species.[324]

Scientists have long recognized that there should be an ecosystem approach to both management and research.[325] This scientific preference for an ecosystem approach to research, like that for ecosystem management, soon became incorporated in domestic law, and a new state practice evolved[326] that required regulators to consider and monitor the cumulative impacts of proposals and actions.[327] This practice was applied to multinational activities and treaty arrangements and agreements.[328]

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324. NOAA FISHERY MANAGEMENT STUDY, *supra* note 214, at 16; 1981 POLLUTION PLAN, *supra* note 103; *see* Lie, *supra* note 212, at 325; Yuru, *supra* note 214, at 126-27; R. Roe, *supra* note 214, at 34.

325. *See, e.g.*, Creech, *In Search of an Ocean Information Policy*, 6 OCEAN Y.B. 15, 16 (E. Borgese, N. Ginsburg, J. Baylson, N. Dunning & D. Dzurek eds. 1986) (as oceans are an ecological system, "one must take an integrated approach to ocean information, indeed, develop an ecology of information"); *see also* Yuru, *supra* note 214, at 126-27; Lie, *supra* note 212, at 325.

The requirement of ecosystem management has been termed "ecomanagement" and environmental assessment and monitoring are accepted as necessary "practical application[s] of the ecomanagement system." Mayda, *Environmental Legislation in Developing Countries: Some Parameters and Constraints*, 12 ECOLOGY L.Q. 997, 1001, 1003 (1985).

326. The Draft World Charter for Nature imposed on nations the responsibility to establish environmental assessment and monitoring procedures, both in their domestic and international actions, that weigh risks against benefits. *See* Smith, *supra* note 286, at 341.

327. *See* Mayda, *supra* note 325, at 1006; Lutz, *supra* note 238, at 495-97; Levy, *supra* note 246, at 331 (countries have variety of institutions that generate "information on the state of knowledge of the marine and coastal endowment"; the goal is to affect policy and decisions). The United States was an example of this state practice. *See* Lutz, *supra* note 238, at 493; *see, e.g.*, NEPA, *supra* note 94; OCSLAA, *supra* note 94, § 20; 43 U.S.C. § 1352 (1982) (providing for baseline information, monitoring, and a comprehensive environmental studies program for reviewing the impacts of offshore oil and gas activities); *see also* Natural Resources Defense Council v. Callaway, 524 F.2d 79, 94 (2d Cir. 1975) (cumulative impacts of ocean dumping).

328. *See, e.g.*, UNITED STATES DEPARTMENT OF STATE, FINAL ENVIRONMENTAL IMPACT STATEMENT ON THE NEGOTIATION OF AN INTERNATIONAL REGIME FOR ANTARCTIC MINERAL RESOURCES (1982); Great Lakes Water Quality Agreements of 1972, 23 U.S.T. 1301, T.I.A.S. No. 7312; Great Lakes Water Quality Agreements of 1978, 30 U.S.T. 1383, T.I.A.S. No. 9257 (agreements between the United States and Canada providing for joint research, information collection, and monitoring); *see also* Convention for the Protection and Development of the Marine Environment of the Wilder Caribbean Region, Treaty Doc. No. 98-13, 98th Cong., 2d Sess., arts. 12 & 13

This state practice has been confirmed by United Nations resolutions and reports, expressing a consensus of the international community.[329] It has been cited by legal scholars as supporting the thesis that there is an international obligation to protect the marine environment and that this obligation includes basic research, assessment, and monitoring.[330] Finally, and perhaps of greatest significance, the obligation for research, monitoring, and assessment is integrated into the recent codification of marine law in UNCLOS. This, with some exceptions not relevant to this discussion, has become binding international law, or at least the best evidence of such law.[331]

UNCLOS establishes a "framework for the effective conservation and management of the marine environment . . . [which] has the consent and support of the organized world community."[332] As described above, that framework provides for an ecosystem approach to

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(1984).

Monitoring and assessment are also being included in multinational arrangements. *See* Carroll & Mack, *supra* note 216, at 37; L. Kimball, The Role and Future of Science in Antarctica and the Southern Ocean, Paper presented at the Center for Oceans Law and Policy Seminar, "The Polar Regions" 4 (Mar. 26-28, 1987); *see also* Zambezi River Treaty, *supra* note 292, suggested actions, ¶ 28.

329. The 1972 Stockholm Conference on the Human Environment included within its Principles a need for rational planning, involving the use of science to identify risk to the environment. The Conference specifically recommended that nation-states individually and collectively establish adequate environmental assessment and monitoring programs. Stockholm Declaration, *supra* note 284, principles 14, 17 & 18; *see also* United Nations Conference on the Human Environment: Final Documents, 11 I.L.M. 1416, 1421 (1972) ("Action Plan for the Human Environment" proposed at the Stockholm Conference includes as one category of recommendations, a requirement for a broad and inclusive "global environmental assessment program.").

More recently, the United Nations Environment Program (UNEP) has stated that international "Principles" include obligations by nation-states for environmental impact assessment both in their domestic and bilateral and multilateral actions (Goals 2 & 3). Specifically, these Principles expect nation-states: (1) to assure that before decisions are made, environmental effects "are to be taken fully into account" (Goal 1); (2) to undertake environmental assessments for all "significant" activities so as to make sure that impacts are known and considered (Principle 1); (3) to include in assessments, "at a minimum," a description of the whole affected environment and the impact of activities "direct, indirect, cumulative, short-term, and long-term" on the environment (Principle 4). *See United Nations Environment Programme, Report of the Working Group of Experts on Environmental Law on its Second Session on Environmental Impact Assessment*, UNEP.WG.152/4 (1987).

330. *See* Mayda, *supra* note 325, at 1006; Schneider, *State Responsibility for Environmental Protection and Preservation*, in INTERNATIONAL LAW - A CONTEMPORARY PERSPECTIVE 607-08 (1985).

331. *See* Gamble & Frankowska, *The 1982 Convention and Customary Law of the Sea: Observations, a Framework, and a Warning*, 21 SAN DIEGO L. REV. 291 (1984) (authors propose that effect of UNCLOS on customary law can be divided into categories—some provisions are now law; some are evolving and therefore the text of Convention is best evidence of new law).

332. Johnston, *Conservation and Management of the Marine Environment: Responsibilities and Required Initiatives in Accordance with the 1982 U.N. Convention on the Law of the Sea*, in LAW OF THE SEA INSTITUTE, THE DEVELOPING ORDER OF THE OCEANS 133 (1984).

marine management. That framework also requires assessment and monitoring to implement that ecosystem approach.

Nation-states in their exclusive economic zones are to acquire "the best scientific evidence" to assure "proper conservation and management measures" for living marine resources. This evidence must include analysis of the effects of harvesting on related species.[333]

Nation-states are to control their nationals and coordinate their activities when resources lay within more than one zone, or within a zone and in the high seas, or totally within the high seas.[334] Such coordination includes assuring that the "best scientific evidence" is obtained for conservation measures and that the interdependence of stocks is considered.[335]

These resource management mandates, applicable to domestic activities, bilateral and multilateral arrangements, and activities by nationals on the high seas,[336] are to be in accord with the general obligation of states to "protect and preserve the marine environment."[337] Thus, nation-states are to consider relevant environmental factors in their resource management assessments and decisions.[338] They are to take such measures as are necessary to preserve ecosystems and the habitat of marine life.[339] Such measures shall include environmental assessment of risks and monitoring of risks and effects.[340] Such assessment and monitoring is to be done directly by each nation-state and indirectly and cooperatively through international organizations.[341]

As a result of this nation-state practice, as confirmed most recently in UNCLOS, the rules for basic and applied research, premised on an ecosystem approach, can now be said to be "norms" or rules of international law.[342] The implication of an international rule

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333. UNCLOS, *supra* note 17, at art. 61.
334. *Id.* at arts. 63-67, 116-18.
335. *Id.* at art. 119.
336. *See id.* at arts. 63-67 (species or associated species within the EEZ of more than one state; or within an EEZ and the High Seas), 117-19 (living marine resources in the High Seas).
337. *Id.* at art. 192.
338. *See id.* at arts. 61(3) (EEZ), 119(1)(a)(High Seas).
339. *Id.* at art. 194(5).
340. *Id.* at art. 204.
341. *Id.* at art. 204; *see also id.* at arts. 200-01 (obligation of states to promote studies and acquire data about pollution, including assessment of the nature and extent of pollution and remedies; and then to determine in light of the information so obtained "the appropriate scientific criteria" for rules to control pollution).
342. *See* Boczek, *supra* note 245, at 291; *see also* Lutz, *supra* note 238, at 492-97; Mayda, *supra* note 325, at 1006.

mandating an ecosystem approach for both management and science on United States ocean policy will be the focus of the next part of this paper.

VI. Implementation of the Ecosystem Mandate—A National Oceans Policy

By definition, rules of international law are binding on nation-states in their international relations. Those nations that have ratified or adhered to UNCLOS must follow their treaty obligations "in good faith."[343] For other nations, their customary international law obligation to follow the comprehensive ecosystem model must similarly be complied with "in good faith."[344]

This international obligation is broad. The ecosystem comprehensive model must be incorporated into each nation-state's own legal system, in any new bilateral or multilateral agreement, and in any formal or informal marine regulatory or management program.[345]

In many nations, international law is part of the nation-state's internal law, unless it is directly inconsistent with other domestic law.[346] Thus, there may be a duty under each nation-state's domestic law to apply the ecosystem approach.[347] With such a duty, government officials of that nation-state must incorporate the comprehensive model into the administration of all its laws and apply other statutes and rules in a manner most consistent with an ecosystem approach.[348] Failure to do so would be a violation of that nation-

343. UNCLOS, *supra* note 17, at art. 300; *see also* Vienna Convention on the Law of Treaties, *supra* note 313, at art. 26; text accompanying note 313; Restatement (Third), *supra* note 119, § 321.

344. L. Henkin, R. Pugh, O. Schachter & H. Smit, International Law - Cases and Materials 36 (1980); *see* Restatement (Third), *supra* note 119, § 102 comment j (customary law and law made by international agreement are deemed to have equal authority as international law). *But see* Trimble, *Revisionist View of Customary International Law*, 33 UCLA L. Rev. 665, 669 (1986).

345. Schneider, *supra* note 330, at 602-03, 604; *see* Restatement (Third), *supra* note 119, pt. V, introductory note at 5.

346. *See* Borchard, *The Relation Between International Law and Municipal Law*, 27 Va. L. Rev. 137, 144 (1940) (British Law); Cohen, *Justice for Occupied Territory? The Israeli High Court of Justice Paradigm*, 24 Colum. J. Transnat'l L. 471, 484 (1986) (Israeli Law). *See generally* L. Henkin, R. Pugh, O. Schachter & H. Smit, *supra* note 344, at 118 (majority of nations give effect to international law unless contrary controlling municipal law).

347. There is some debate as to whether a "new" customary international law mandate is automatically incorporated into domestic law and supersedes prior statutes and judicial precedents. *See* M. Shaw, *supra* note 61, at 107-08 (discussing British cases). *Compare* Henkin, *International Law as Law in the United States*, 82 Mich. L. Rev. 1555, 1565 (1984) *with* Goldklang, *Back on Board the* Paquete Habana*: Resolving the Conflict Between Statutes and Customary International Law*, 25 Va. J. Int'l L. 143, 149 (1984). As is discussed at *infra*, notes 357-59 and accompanying text, this is not a substantial problem. No statute or judicial precedent is likely to be directly inconsistent with the ecosystem model.

348. *See* M. Shaw, *supra* note 61, at 97-120.

state's own laws and redressable in that nation's own courts.[349]

The duty to incorporate international law into domestic law and policy also applies to foreign relations. A country's representatives have the constitutional obligation to further the laws and policies of their government.[350] This obligation to uphold and further domestic law means insistence on an ecosystem approach in negotiating bilateral or multilateral marine environmental protection or resource management agreements.[351]

The only complication that may arise in incorporation of the ecosystem model into the internal laws and policies of nation-states is the existence in most jurisdictions of numerous statutes, policies, rules, plans, or treaty obligations that deal separately with marine pollution problems and that deal individually with particular marine species.[352] However, few, if any, of these policies are directly inconsistent with the comprehensive ecosystem model. Enough discretion is given to each country's regulators to maximize environmental protection and balance resource management issues so that these requirements can be interpreted so as to be consistent with the ecosys-

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349. *See* L. HENKIN, R. PUGH, O. SCHACHTER & H. SMIT, *supra* note 344, at 118; Borchard, *supra* note 346, at 144; *see, e.g.*, The Paquete Habana, 175 U.S. 677, 700 (1900). Some commentators have argued that because of a lack of trust in international tribunals, "domestic courts may, by default, become the only judicial institutions likely to decide important controversies involving international law." Frankowski, *The Vienna Convention on the Law of Treaties Before United States Courts*, 28 VA. J. INT'L L. 281, 282 (1988).

350. *See* CONSTITUTIONS AND CONSTITUTIONALISM 13 (W. Andrews ed. 1971) (by definition, "constitutionalism" means the establishment of directives and policy and the obligation of the governors to adhere to these prescriptions). *See generally id.* (describing the "constitutions" of Great Britain, the United States, France, West Germany, and the Soviet Union—all containing obligations on the Executive to obey and implement the law). In the United States, the Executive's obligation is expressed in the command of the Constitution that the President "take care that the Laws be faithfully executed." U.S. CONST. art. II, § 3.

351. *See* Sasse, *The Common Market: Between International and Municipal Law*, 75 YALE L.J. 695, 712-13 (1966) (citing German and Italian Constitutions).

In describing the authority of the President to exercise foreign policy powers, including actions with other states, Professor Henkin notes: "President has no power—as such—to violate international law, just as he has no power—as such . . . to repeal a treaty or a customary principle as law of the land." Henkin, *The President and International Law*, 80 AM. J. INT'L L. 930, 936 (1986).

352. *See generally United Nations Legislative Series, National Legislation and Treaties Relating to the Law of the Sea*, U.N. Doc. ST/LEG/SER.B/19 (1980); OFFICE OF THE SPECIAL REPRESENTATIVE OF THE SECRETARY-GENERAL FOR THE LAW OF THE SEA, THE LAW OF THE SEA: NATIONAL LEGISLATION ON THE EXCLUSIVE ECONOMIC ZONE, THE ECONOMIC ZONE AND THE EXCLUSIVE ZONE, U.N. Sales No. E.85.V.10 (1986).

tem model.[353] International law and the domestic law of most states require governments to make that reconciliation where possible.[354]

The following section describes how the ecosystem model has been accepted by the United States as binding customary international law and thus part of the domestic law of the United States. There is now both an international obligation and a domestic law requirement that ocean managers establish a new comprehensive ocean policy that applies an ecosystem approach to ocean management and research.

A. The Comprehensive Ecosystem Model in United States Law

The United States has not signed, let alone ratified, UNCLOS. The mandates of the Convention, including those for a comprehensive ecosystem approach, are, therefore, not incorporated into United States law as part of the federal constitutional requirement that "Treaties. . .shall be the supreme Law of the Land."[355] However, as described above, the ecosystem model is binding not only on parties to UNCLOS but also on nonsignatories, as customary international law. UNCLOS is not only a treaty but a codification and articulation of the present state of the rules applicable to the oceans.[356]

The United States Government has consistently maintained that, except for certain specific subjects, not here relevant, the United States accepts the provisions of the Convention as stating present customary international law. In fact, former President Reagan and his representatives have indicated that it is in the United States national interest to promote the comprehensive and ecosystem-based UNCLOS provisions as being part of customary international law.[357]

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353. *See, e.g.*, N. SYRODOYEV, SOVIET LAND LEGISLATION 131 (1975) (legislation in U.S.S.R. provides discretion to regulators to implement Soviet policy of "rationally utilizing and protecting" land and resources); D. VANDERZWAAG, *supra* note 228, at 68 (Canadian legislation gives minister of fisheries and oceans "absolute discretion" to regulate management of fisheries and to control the disposal of "deleterious substances into the water"); Voigt, *The Baltic Sea - Pollution Problems and Natural Environmental Changes*, in MANAGING THE OCEANS 163 (J. Richardson ed. 1985) (international arrangements for protection of the Baltic Sea area give discretion to regulate to assure rational protection and proper management and exploitation of resources).

354. *See* Borchard, *supra* note 346, at 144; Lauritzen v. Larson, 345 U.S. 571, 582 (1953) (mutual obligation of nation-states to interpret domestic law in accordance with international law to avoid instability in foreign affairs).

355. U.S. CONST. art. VI, cl. 2.

356. RESTATEMENT (THIRD), *supra* note 119, pt. V, introductory note at 5-9 (provisions of UNCLOS, with exceptions not here relevant, are customary international law and part of law of United States). *See generally* Frankowski, *supra* note 349 (discussing the binding nature of the Vienna Convention on the Law of Treaties on nonsignatories as a statement of "customary law").

357. *See* Reagan Ocean Statement, *supra* note 108; Malone, *supra* note 119, at 59-61; *see also* RESTATEMENT (THIRD), *supra* note 119, pt. V, introduction at 5.

There is some debate as to whether the President, who has the constitutional obligation to "faithfully execute" the laws is always bound by customary international law. The

The impact of such an acceptance and sponsorship should have a dramatic impact on our national ocean policy.[358] As described above, international law was evolving until 1982 so as to require a comprehensive ecosystem approach to ocean management and science. That evolution was completed by the drafting and then promulgation of UNCLOS. By accepting UNCLOS as stating customary law, the United States has accepted the comprehensive ecosystem model as

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courts have stated that the President has constitutional authority as the "sole organ of the nation in its external relations," United States v. Curtiss-Wright Export Corp., 299 U.S. 304, 319 (1958), and as protector of national security as Commander in Chief, U.S. CONST. art. II, § 1. Some therefore argue that the President has the authority to take some executive action that might constitute violations of international law by the United States, and that such actions are "political questions" and therefore not reviewable in the courts. *See* Goldwater v. Carter, 444 U.S. 996, 1002 (1979). Others argue that such issues are justiciable, especially when the issue is interpretation and application of domestic international law. *See* Japan Whaling Ass'n v. American Cetacean Soc'y, 478 U.S. 221, 229-30 (1986). *See generally* RESTATEMENT (THIRD), *supra* note 119, § 1 reporter's note 2 at 9-13; *id.* at § 111 comment c; Charney, *The Power of the Executive Branch of the United States Government to Violate Customary International Law*, 800 AM. J. INT'L L. 913 (1986).

The premises of this debate indicate that it is irrelevant to the present discussion. The argument is that the courts should not enforce this customary rule because it is necessary for the President and other members of the Executive Branch to sometimes "break the law" in order to help create a new rule of customary international law. *See* Charney, *supra*, at 919. Here, the President seeks to help establish the validity of a new set of customary norms.

President Reagan has indicated that he accepted the comprehensive ecosystem provisions of UNCLOS as part of customary international law. Moreover, because of concerns with provisions relating to deep seabed mining and other issues, he sought to convince the rest of the world that these provisions are part of customary international law, and thus binding, without the need to adhere to the text of UNCLOS, and thus the provisions with which he disagrees. In fact, representatives of the United States have indicated that the federal government is willing to "abide by the package deal—the original package deal—that was negotiated by the Conference" in its relations with other nation-states. *See* Colson, *The United States, The Law of the Sea, and the Pacific*, in CONSENSUS AND CONFRONTATION: THE UNITED STATES AND THE LAW OF THE SEA CONVENTION, LAW OF THE SEA CONVENTION 45 (J. Van Dyke ed. 1985).

Thus, it is in the United States' present foreign policy interests to pursue acceptance of the relevant provisions of UNCLOS as customary international law, binding on all nation-states, and thus binding domestically on the United States. The issue then is not whether it is binding, but how it is to be interpreted and applied, when incorporated in our law, and thus in potential conflict with other American statutes. The reconciliation of statutory mandates and customary international law is one for the courts, and not the executive. *See* RESTATEMENT (THIRD), *supra* note 119, §§ 113, 114, 115; *see also Japan Whaling Ass'n*, 478 U.S. at 230.

358. The United States is in the process of seeking acceptance of the relevant provisions of UNCLOS into customary international law. It thus wishes to create as many "precedents" as possible for the existence of these norms. *See* Kriesberg, *Does the U.S. Government Think That International Law is Important?*, 11 YALE J. INT'L L. 479, 483-85 (1986).

binding on it domestically.[359]

Customary international law is part of the law of the United States.[360] It is supreme over the law of any individual state within the United States.[361] Whether a state law existed at the time of an emergent rule, or is enacted after its incorporation into federal law, it will be void if inconsistent with a customary international law rule.[362]

With one limited exception, international law principles and mandates must be obeyed by citizens and government officials.[363] State and federal courts are bound to give effect to these principles and mandates.[364] Government agents are required to pursue the compre-

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359. In The Paquete Habana, 175 U.S. 677, 712 (1900), the Supreme Court looked at a Presidential Proclamation as one basis to find that a set of international legal norms had been internalized into domestic law, placing these norms on "a par with [other] U.S. law." *See* Morgan, *Internalization of Customary International Law: An Historical Perspective*, 12 YALE J. INT'L L. 63, 72 (1987); *see also* United States v. Enger, 472 F. Supp. 490, 505 (D.N.J. 1978) (customary international law or "law of nations" is part of domestic law; Vienna Convention on Diplomatic Relations, though not adopted by United States, codified the customary law and is either declaratory of existing international law or persuasive evidence of existing international law and thus binding in American courts).

360. The classic exposition of this rule was given by Justice Sutherland in The Paquete Habana, 175 U.S. at 700: "International law is part of our law, and must be ascertained and administered by the courts of justice of appropriate jurisdiction, as often as questions of right depending upon it are duly presented for their determination."

361. RESTATEMENT (THIRD), *supra* note 119, § 111(1); *see* Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398, 425 (1964); United States v. Belmont, 301 U.S. 324, 331 (1937); *see also* Henkin, *supra* note 347, at 1559-60.

362. *See* Frankowski, *supra* note 349, at 388; Comment, *Customary International Law in United States Courts*, 32 VILL. L. REV. 1089, 1092 (1987); *see also Banco Nacional de Cuba*, 376 U.S. at 425 (citing Professor Jessup's assertion that rules of international law should be not left to divergent state interpretations, and declaring that the "basic choice regarding the competence and function of the Judiciary and the National Executive in ordering our relationships with other members of the international community must be treated exclusively as an aspect of federal law").

363. 11 Op. Att'y Gen. 356, 362-63 (1862); *see* Lobel, *The Limits of Constitutional Power: Conflicts Between Foreign Policy and International Law*, 71 VA. L. REV. 1071, 1119 (1985).

364. The Paquete Habana, 175 U.S. at 700; *see* Peters v. McKay, 238 P.2d 225, 230-31 (Or. 1951); *see also* Henkin, *supra* note 347, at 1566.

Professor Henkin has forcefully stated this proposition as follows:

> It is old hat that international law is part of the law of the United States. Therefore, the courts are bound to give effect to international law as part of the law of the United States.
>
> Essentially, that means giving effect to international law against the United States government. Let me repeat that. The meaning of the proposition that international law is part of the law of the United States ordinarily means that the courts will assure that United States officials do not violate international law. That is what happened in *The Paquete Habana.* It is in that context, in particular, that there is a role for the courts. They are to see to it that the United States observes international law; they help see the United States carries out its international obligations.

Henkin, *The Role of the American Domestic Courts*, 9 GEO. MASON U.L. REV. 28, 28 (1986).

hensive approach as they negotiate bilateral or multilateral ocean science or management agreements, or informal arrangements.[365]

The exception to this explicit incorporation of customary international law into United States law involves the possibility of an inconsistency between the provisions of customary law and those in federal statutes.[366]

Though the United States may have an international obligation to comply with a rule of international law,[367] federal legislation enacted subsequent to the emergence of that rule is binding domestically.[368] Courts must enforce the subsequent federal statute, even if inconsistent with the international legal commitment of the United States.[369] However, under the law of the United States, that supersession only occurs when there is a direct conflict.[370] An act of Congress will only supersede the customary rule when its clear purpose is to do so. If possible, the federal statute and the international law rule are to be

365. Schneider, *supra* note 330, at 602-03, 604 ("basic obligation under international law for nation-states to prevent pollution and other destructive impacts on both inclusive and exclusive resources"; obligation means use of "all instruments of policy [including] the whole range of diplomatic, economic, ideological and military strategies"); *see* RESTATEMENT (THIRD), *supra* note 119, pt. I, introductory note at 17: "International law is law like other law, promoting order, guiding, restraining, regulating behavior. States, the principal addressees of international law, treat it as law, consider themselves bound by it, attend to it with a sense of legal obligation, and with concern for the consequences of violation." The ecosystem-based provisions of UNCLOS, "by express or tacit agreement accompanied by consistent practice [have been accepted by "the United States and states generally"] . . . as statements of customary law binding upon them . . . ." *Id.* pt. V, introductory note at 5.

As an example of how domestic law can force the Executive to promote a certain policy in international relations, see Lachia, *Saving the Earth—U.S. Asks World Bank to Make Safeguarding Environment a Priority*, Wall St. J., July 3, 1988, at 1, col. 1, at 6, cols. 2 & 3.

366. *See, e.g.*, Garcia-Mir v. Meese, 788 F.2d 1446, 1453-55 (11th Cir. 1986).

In general, rules of customary international law must give way to an inconsistent federal statute. Lobel, *supra* note 363, at 1109; *see* The Paquete Habana, 175 U.S. at 700. The general rule for an act of Congress and a rule of international law, whether from a self-executing treaty, international agreement, or customary rule, is that they are of equal status in United States law and if there is any direct conflict, the later in time prevails. RESTATEMENT (THIRD), *supra* note 119, § 115 comment a. There is more difficulty about a newly emergent rule of customary international law and a pre-existing federal statute.

367. RESTATEMENT (THIRD), *supra* note 119, § 115(1)(b). "Since a conflicting statute would bring the United States into violation of international law, the prospect of such conflict may be an appropriate ground for Congress to reject a proposed statute or for the President to veto it." *Id.* § 115 comment a.

368. Whitney v. Robertson, 124 U.S. 190, 193-94 (1888).

369. Chinese Exclusion Case, 130 U.S. 581, 602-03 (1889); *see* Glennon, *Can the President Do No Wrong?*, 80 AM. J. INT'L L. 923, 923 (1986).

370. *See* 2 G. HACKWORTH, DIGEST OF INTERNATIONAL LAW § 112, at 2 (1942).

reconciled.[371]

A more difficult problem arises from the emergence of a customary rule that may be inconsistent with a prior federal statute.[372] Some commentators have argued that "new" customary international law mandates are thereby "new" provisions of United States law and thus supersede all prior federal statutes.[373] Others maintain that customary international law rules do not, in and of themselves, overrule prior domestic law.[374] Only specific federal statutes or implemented treaties can do that.[375]

In any event, even if a new customary rule does not supersede prior law, a problem will only arise if there is a direct inconsistency between a federal statute and the new international norm.[376] Where possible, a pre-existing United States statute is to be construed so as not to conflict with customary international law.[377]

Thus, assuming for the moment no direct inconsistencies between the ecosystem model and present and future acts of Congress, the comprehensive approach must be applied by regulators in their setting of ocean policies and in their promulgation of plans, rules, and regulations.[378] They must interpret their statutory mandates to include a comprehensive approach to ocean issues.[379] Where program

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371. *See* Cook v. United States, 288 U.S. 102, 120 (1933); *see also* RESTATEMENT (THIRD), *supra* note 119, § 114.

372. *See* Kirgis, *Federal Statutes, Executive Orders and "Self-Executing Custom,"* 81 AM. J. INT'L L. 371, 373 (1987); Comment, *supra* note 362, at 1092-93.

373. *See* Henkin, *supra* note 351, at 933.

374. Even those commentators who argue that a newly emergent custom cannot prevail over a validly enacted federal statute accept a possible exception where the President has actively participated, as a chief diplomat, in the formation of a new rule. In such situations, the President may have the inherent constitutional power to overrule a prior statute. *See* Kirgis, *supra* note 372, at 373 n.11. As described earlier, President Reagan, both through his diplomatic agents and by his own statements, accepted the applicable provisions of UNCLOS as stating a new rule of customary law. Thus, this possible exception is especially significant when considering the incorporation of the comprehensive ecosystem approach into domestic American law. It is additional leverage to convince regulators as to the applicability of the approach and to convince courts as to the binding nature of the model when reviewing arguments as to its consistency with other federal statutes.

375. *See* Goldklang, *supra* note 347, at 149; *see also*, RESTATEMENT (THIRD), *supra* note 119, § 115, reporter's note 4.

376. Murray v. The Schooner Charming Betsy, 6 U.S. (2 Cranch) 64, 118 (1804) ("[A]n Act of Congress ought never to be construed to violate the law of nations, if any other possible construction remains."); *see* McCulloch v. Sociedad Nacional de Marineros de Honduras, 372 U.S. 10, 19 (1962) (courts should seek to avoid an interpretation of a statute that is against international law to avoid "considerable disturbance not only in the field of maritime law but in our international relations as well" and also to avoid "embarrassment in foreign affairs").

377. RESTATEMENT (THIRD), *supra* note 119, § 115(1)(a).

378. "Customary international law is part of federal common law. Federal common law is binding on every executive official [unless Congress has by statute created a different rule]." Glennon, *supra* note 369, at 923.

379. *See* RESTATEMENT (THIRD), *supra* note 119, § 115 comment a; Paust, *The President Is Bound by International Law*, 81 AM. J. INT'L L. 377, 385 (1987) (customary

administrators have discretion to implement statutory mandates, they must exercise their discretion so as to be in accord with customary international law.[380] Pollution and resource management cannot be separately considered. Research and management must focus on the ecosystems involved.[381]

Even if separate agencies have differing responsibilities that overlap in regards to ocean research or management, they must develop mechanisms to work together in order to integrate the ecosystem approach into their plans and rules. If they fail to do so, the President, or at least the Executive office, must establish those mechanisms.[382]

Failure of the Executive to implement the ecosystem model and take a comprehensive approach to ocean policy is now a legal issue.[383] Citizens, with appropriate "standing,"[384] who are aggrieved by the failure of executive branch agencies to apply the comprehen-

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international law must be used as aid in interpreting relevant statutory provisions).

See also 4 G. HACKWORTH, DIGEST OF INTERNATIONAL LAW § 388, at 460 (1942) (quoting correspondence, dated March 16, 1906, from the Secretary of State as to an issue of diplomatic taxation:

> The law of nations must be construed broadly and in a spirit to safeguard any right existing by virtue of the law of nations. It is a separate system of jurisprudence although incorporated bodily in our fundamental law. It must therefore be construed with regard to the origin and nature of the right . . . .).

380. *See* Paust, *supra* note 379, at 383.

381. As demonstrated earlier, the present state of customary international law requires a comprehensive ecosystem approach. *See supra* notes 211-342 and accompanying text. The recently revised *Restatement* indicates that the principles which form the basis for the author's thesis are now part of domestic American law. *See* RESTATMENT (THIRD), *supra* note 119, §§ 514, § 514 comments f & i (obligation to adopt proper conservation and management measures for exploitation of living marine resources, and to control pollution, citing UNCLOS), 603, 603 comments a & d (rules for marine pollution and protection of fragile ecosystems, citing UNCLOS).

382. The President has an obligation to obey and faithfully execute the supreme federal law, which includes customary international law. This includes assuring that executive departments and agencies implement the principles established by customary international law. *See* Paust, *supra* note 379, at 382 (citing 1 Op. Att'y Gen. 566, 570-71 (1822) and 9 Op. Att'y Gen. 356, 362-63 (1862)).

383. Both the President and the Congress have indicated their support for the applicable principles of UNCLOS and for a comprehensive approach to the oceans management and policy.

> It should be apparent that the greater the degree of codification or consensus concerning a particular area of international law, the more appropriate it is for the judiciary to render decisions regarding it, since the courts can then focus on the application of an agreed principle to circumstances of fact rather than on the sensitive task of establishing a principle not inconsistent with the national interest or with international justice.

Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398, 428 (1964).

384. For a discussion summarizing the present sometimes confusing law of standing to challenge executive action, see Nichol, *Abusing Standing: A Comment on Allen v. Wright*, 133 U. PA. L. REV. 635 (1985).

sive approach, may go to the courts and seek appropriate relief.[385] The courts are bound to apply international law, resolve disputes, reconcile statutes to be in accord with the comprehensive approach, and order federal officials to apply the ecosystem model.[386]

In short, the courts, and citizens through the courts, are empowered to force the United States to establish a national oceans policy.[387] This policy will require an ecosystem approach to fisheries and pollution research and regulation. It will mandate reconciliation of conflicting goals and uses in coastal and ocean management. It will force an appropriate balancing of protection as against development. It, by necessity, will lead to new mechanisms to develop an ocean agenda and then implementation of that agenda.[388]

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385. Most federal environmental statutes and the Administrative Procedures Act provide for citizens' suits to challenge executive action by an individual or group that is "adversely affected or aggrieved." *See* Administrative Procedure Act, 5 U.S.C. § 702 (1982); FWCPA, *supra* note 94, § 505(g); 33 U.S.C. § 1365(g) (1982); *see* W. RODGERS, ENVIRONMENTAL LAW § 1.13, at 76-89 (1977).

386. *See* Whitney v. Robertson, 124 U.S. 190, 195 (1887) ("The duty of the courts is to construe and give effect to the latest expression of the sovereign will."). The issue of applying customary international law rules to the discretion given to the President and Executive Departments and agencies is one "that must be drawn by the judiciary." Paust, *supra* note 379, at 383.

387. Some commentators have argued that the courts are the best place for promoting adherence to international law. *See* R. FALK, THE ROLE OF DOMESTIC COURTS IN THE INTERNATIONAL LEGAL ORDER 12 (1964). The courts are the most dispassionate of all possible decision-makers. Kline, *An Examination of the Competence of National Courts to Prescribe and Apply International Law*, 1 U.S.F. L. REV. 49, 82 (1966). They are intended to function independently and "to ascertain norms with a view to a truly internationalist perspective." Comment, *supra* note 362, at 1126.

388. One argument against judicial review of international law or foreign policy decisions is that, by definition, foreign policy issues are "political in nature" and should not be a function of the court system. In a 1985 article, Professor Lobel explored the "political question" argument and the changing nature of the "political question" doctrine. *See* Lobel, *supra* note 363, at 1153-79. He noted that the courts are not merely agents of domestic law but also of the "international order . . . . No broad rule of judicial abstention is warranted." *Id.* at 1171.

There may, of course, also be arguments that establishing a comprehensive ecosystem approach to oceans management and policy is undemocratic as allowing law proposed and developed by other nations to supersede our domestic policy, as expressed by legislators in individual statutes, and that therefore the courts should not act to enforce and apply such customary rules or doctrines. This argument "misses the relationship between American democracy and respect for legal values in international society. Disrespect for law in the conduct of our international relations may be connected to an undermining of democracy at home." *Id.* This argument was forcefully rejected by the United States Supreme Court more than 80 years ago when it said:

> Undoubtedly, no single nation can change the law of the sea . . . . Like all the laws of nations, it rests upon the common consent of civilized communities. It is of force, not because it was prescribed by any superior power, but because it has been generally accepted as a rule of conduct . . . . This is not giving to the statutes of any nation extra-territorial effect . . . . [I]t is recognition of the historical fact that by common consent of mankind these rules have been acquiesced in as of general obligation. Of that fact, we think, we may take judicial notice . . . .

The Paquete Habana, 175 U.S. 677, 711 (1900).

The next section of this article will demonstrate that present federal law is not inconsistent with an ecosystem approach. It will be followed by a description of how specific statutes will have to be interpreted and applied to implement the comprehensive model.

B. Incorporating the Comprehensive Ecosystem Model into United States Ocean Law and Policy

The incorporation of the ecosystem approach into United States ocean law and policy assumes that this approach is not directly inconsistent with any present federal law. The nature of United States legislation dealing with environmental protection and natural resource management assures that there is little likelihood that such a direct conflict occurs. Almost all federal laws provide very broad policy guidelines seeking maximum environmental protection and balanced resource management.[389]

Congress routinely delegates to administrative discretion the multitude of decisions necessary to implement its policies.[390] The judgment of the regulator as to statutory language is given great defer-

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389. *See* Charney, *The Exclusive Economic Zone and Public International Law*, in WOODS HOLE OCEANOGRAPHIC INSTITUTE, MARINE POLICY AND OCEAN MANAGEMENT CENTER, ASSESSING OCEAN GOVERNANCE, REPORT OF THE FIRST MEETING OF THE OCEAN POLICY ROUNDTABLE app. four at 7, 10-11 (1983) (no legislation needed to conform American law to UNCLOS, as existing legislation and EEZ Proclamation sufficient). *See generally* Belsky, *supra* note 13.

See, e.g., Murphy & Belsky, *supra* note 52, at 307. For a more detailed discussion of the broad scope of environmental statutes and the power of regulators to exercise their discretion in the implementation of these statutes, see Belsky, *supra* note 88, at 15-18, 24-26, 44-52, 71-77.

390. *See* W. ROSENBAUM, ENVIRONMENTAL POLITICS AND POLICY 44 (1985). Professor Rosenbaum notes that: "Even when delegation is not clearly intended, administrators assume the power to make public policy when they choose how to implement policies permitting different options; hence the existence of administrative discretion."

Dean Douglas Costle, former Administrator of the Environmental Protection Agency, has defined the job of the regulator as follows:

> Under our constitutional system, the regulator starts where Congress leaves off: with delegated authority to make rules, often including the authority to determine whether there is a need for a rule in the first place; to inspect for violations; to determine whether violation has or has not occurred; and to proceed against alleged violators of the rules.

Costle, *Environmental Regulation and Regulatory Reform*, 57 WASH. L. REV. 409, 411 (1982).

The only possible limitation on this grant of discretion has been the growth of congressional staffs who were given the responsibility of assuring oversight to "control the regulators." *See* Hill, *The Third House of Congress Versus the Fourth Branch of Government: The Impact of Congressional Committee Staff on Agency Regulatory Decision-Making*, 19 J. MARSHALL L. REV. 247, 254, 256 (1986).

ence.[391] However, the courts are given the ultimate authority to interpret environmental and natural resource laws and to eliminate the ambiguities, fill in the silences, and straighten out the overlaps.[392]

This general congressional method of operation has been applied to oceans policy. "Congress has increasingly relied upon the agencies to do whatever is right by granting them very broad mandates of limited substantive guidance."[393] It allows executive agencies to interpret statutory language[394] and the courts give deference to these interpretations.[395]

This broad discretion given to regulatory agencies is, of course, constrained by specific provisions included in statutes.[396] Thus, agen-

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391. *See, e.g.*, Bowles v. Seminole Rock Co., 325 U.S. 410, 414 (1945) ("plainly erroneous" standard); Ehlert v. United States, 402 U.S. 99, 105 (1971) ("reasonableness" standard). *See generally* Weaver, *Judicial Interpretation of Administrative Regulations: The Deference Rule*, 45 U. PITT. L. REV. 587 (1984).

392. *See* Coffman, *Judicial Review of Administrative Interpretations of Statutes*, 6 W. NEW ENG. L. REV. 1, 2 (1983)(citing the provisions of the federal Administrative Procedure Act, 5 U.S.C. §§ 551-706 (1982)); W. ROSENBAUM, *supra* note 390, at 47; *see, e.g.*, United States v. Conroy, 589 F.2d 1258, 1267 (5th Cir. 1979) (court uses Convention on Territorial Sea and the Contiguous Zone "to supplement the statute" and interpret congressional report language as to Coast Guard's enforcement authority).

393. Stelle, *Conflict Resolution and Multiple-Use Management in the Exclusive Zone*, in MARINE TECHNOLOGY SOCIETY & INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, OCEANS '84 - EXCLUSIVE PAPERS ECONOMIC ZONE, *supra* note 13, at 12. Mr. Stelle, on the staff of the House Merchant Marine and Fisheries Committee, cites as examples of these broad mandates, fisheries management and ocean pollution: "Thus, Congress directs the Secretary of Commerce to regulate fishing to achieve the greatest overall benefit for the nation, or the Environmental Protection Agency to protect the oceans from unreasonable degradation."

394. Statutes contain broad definitions and very general language. *See, e.g.*, MPRSA, *supra* note 94 (provisions on ocean dumping):

> The Congress declares that it is the policy of the United States to regulate the dumping of all types of materials into ocean waters and to prevent or strictly limit the dumping into ocean waters of any material which would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.

Id. at § 2(b), 33 U.S.C. § 1401(b) (1982).

"In carrying out the responsibilities and authority conferred by this subchapter, [federal officials] . . . are authorized to issue such regulations as they may deem appropriate." *Id.* at § 108, 33 U.S.C. § 1418 (1982).

Regulators have used these broad grants to first reject the idea of regulations on ocean incineration and then to promulgate regulations in this area. *See* Comment, *The United States Environmental Protection Agency's Proposal for At-Sea Incineration of Hazardous Wastes—A Transnational Perspective*, 21 VAND. J. INT'L L. 157, 171-73 (1988).

395. *See* Secretary of the Interior v. California, 454 U.S. 312, 320 n.6 (1984) (in interpreting the application of the Coastal Zone Management Act's consistency provisions to offshore drilling activities, the Supreme Court noted that "under normal circumstances [an agency's] understanding of the meaning of [a statutory provision] would be entitled to deference by the courts . . . But [here] the agency has walked a path of such tortured vacillation and indecision that no help is to be gained in that quarter.").

396. *See* Federal Election Comm'n v. Democratic Senatorial Campaign Comm., 454 U.S. 27, 32 (1981) (administrative interpretation must give way to "plain meaning" of the statutory command).

cies must implement their specific statutory responsibilities and interpret their statutory mandates not only in terms of the particular statute establishing a policy or program, but also in light of other statutes that establish requirements for all such programs.[397] This responsibility exists even if the result of application of an additional statute compels a different result than would have occurred by application of a single specific statute.[398]

The courts will enforce these obligations found in differing statutes and will attempt to reconcile any potential differences by construing overlapping obligations so as to avoid conflicts.[399] If "two statutes are capable of coexistence, it is the duty of the courts . . . to regard [both] as effective."[400]

An identical process is followed when reconciling statutory mandates and the requirements of treaty or customary international law. The broad discretion given to federal officials is also constrained by applicable international law. Federal officials must implement policies and programs, and interpret statutory mandates, in light of applicable international law.[401] The courts will enforce these multiple obligations and attempt to reconcile any potential differences by interpreting statutory language to best conform with international

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397. One statute that governs most ocean activities or programs is NEPA, *supra* note 94. NEPA provides that, unless there is a specific statutory exemption, (1) "the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies" established by the statute, *id.* at § 102, 42 U.S.C. § 4332 (1982); and (2) each agency must prepare and include in every recommendation and report, or proposals for legislation and other "major Federal actions significantly affecting the quality of the human environment," a detailed environmental impact statement. *Id.* at § 102(c), 42 U.S.C. § 4332(c) (1982).

Another statute that is applicable to ocean policies and programs is CZMA, *supra* note 94. CZMA establishes procedures by which the Department of Commerce can approve state management programs, *id.* § 306, 16 U.S.C. § 1455 (1982), and provides that "each Federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support such activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs." *Id.* § 307(c)(1), 16 U.S.C. § 1456(c)(1) (1982). It also provides for "consistency" of development projects undertaken by federal agencies and of federal licenses and permits. *Id.* § 307(3), (4), 16 U.S.C. § 1456(3), (4) (1982); *see* Archer, *California v. NOAA: May NOAA Require Changes in State Coastal Management Programs?*, TERRITORIAL SEA 1, 3 (Summer 1988).

398. *See* Radzanower v. Touche Ross & Co., 426 U.S. 148, 155 (1976).

399. Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1018 (1984); Watt v. Alaska, 451 U.S. 259, 267 (1981); *see, e.g.*, Udall v. Federal Power Comm'n, 387 U.S. 428, 438-39, 443-444 (1967) (interpretation of Federal Power Act in light of provisions of Anadromous Fish Act and policies established by Fish and Wildlife Coordination Act).

400. *Monsanto Co.*, 467 U.S. at 1018.

401. McCulloch v. Sociedad Nacional de Marineros de Honduras, 372 U.S. 10, 21-22 (1963).

law.[402] As with overlapping statutes, the fact that applying a customary rule to a statutory command might change what would result if the statute alone was applied is of no legal consequence.[403]

The process by which the courts apply customary international law is not easy.[404] Because customary law is part of the law of the United States, it need not be pleaded and proven.[405] Rather the court can take judicial notice of the existence of a rule, after a review of relevant state practice, the position of the United States government, the works of scholars, and any codification generally accepted as a consensus of nation-state opinion.[406] Here, such a rule exists. It provides for a comprehensive ecosystem approach to all ocean-related actions. When there is a potential overlap of a binding international custom and domestic law, it is the obligation of the courts to resolve differences and uphold the importance and relevance of international law.[407]

Thus, despite the existence of multiple statutes governing ocean management and policy, there now exists the ability to formulate a comprehensive approach to the oceans or a "national oceans policy." The applicable provisions of UNCLOS—both those that are a codification of long-accepted custom and those that suggest the "progressive development" of new custom[408]—are to be used as a means to interpret statutory mandates and to coordinate federal policies, pro-

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402. *See, e.g.*, Weinberger v. Rossi, 456 U.S. 25, 27, 30-31 (1982). In *Weinberger*, the Court accepted the maxim that "an Act of Congress ought never to be construed to violate the law of nations, if any other possible construction remains." *Id.* at 27. It then accepted the Vienna Convention on Treaties, although not a treaty binding on the United States, as a statement of the codification of customary international law. Using the Vienna Convention, it interpreted a federal statute's use of the word "treaty" as having the meaning given in the Vienna Convention. *Id.* at 31-32; *see also* Frankowski, *supra* note 349, at 383 (implicit in a series of federal decisions is that the United States is bound by the law expressed in the Vienna Convention which is invoked, despite the nonratification of the Convention by the United States); Commodity Futures Trading Comm'n v. Nahas, 738 F.2d 487, 493, 493 n.13 (D.C. Cir. 1984).

403. *See* Radzanower v. Touche Ross & Co., 426 U.S. 148, 155 (1976).

404. *See* Oliver, *Remarks - The Revised Draft Restatement of the Foreign Relations Law of the United States and Customary International Law*, 79 PROC. AM. SOC'Y INT'L L. 78, 79-80 (1985); Comment, *supra* note 362, at 1100-01; Glennon, *Raising The Paquete Habana: Is Violation of Customary International Law of the Executive Unconstitutional?*, 80 NW. U.L. REV. 321, 353-56 (1985).

405. The Paquette Habana 175 U.S. 677 (1900).

406. *Id.*; *see also* Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398, 429 (1964).

407. *See* Henkin, *supra* note 364, at 31-32: "My conclusion is that the best thing that the American courts can do in support of international law is to make the United States government observe it."

408. In Weinberger v. Rossi, 456 U.S. 25 (1982), the Court accepted the provisions of the Vienna Convention on Treaties as stating customary international law and binding. This treaty not only "codified" previous principles but also included provisions which reflected the "progressive development of international law." Frankowski, *supra* note 349, at 287.

grams, and rules.[409] Because of the supremacy of federal law, the customary international law requirement of comprehensive ecosystem management will supersede any inconsistent state law or policy.[410]

Former President Reagan, by Executive Proclamation, accepted the comprehensive ecosystem approach as part of domestic law.[411] President Bush now has the duty to require that his executive officers in "their construction of statutes under which they act" follow this approach, and to provide procedures to "secure that unitary and uniform execution of the laws which . . . the Constitution evidently contemplated in vesting general executive powers in the President alone."[412] If the President fails to establish mechanisms to assure this "unitary execution," the courts will have the responsibility of assuring that the comprehensive ecosystem approach is lifted from a possible "twilight existence" to a binding doctrine.[413]

VII. APPLYING THE COMPREHENSIVE ECOSYSTEM APPROACH—A FEW EXAMPLES

The previous section described why the ecosystem approach must be used as a basis for integrating ocean statutes and regulatory actions into a comprehensive policy. I will now attempt to illustrate how such an approach can be used with specific statutes to achieve such a policy.

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409. The Supreme Court has termed this process of incorporation of customary international law into the interpretation of federal statutes as having a federal common law "informed" by international law principles. *See* First Nat'l City Bank v. Banco Para el Comercio, 462 U.S. 611, 623 (1983). For a discussion of the various methods by which nation-states can establish a national oceans policy, based on the principles of UNCLOS, see Levy, *supra* note 246.

410. *See* MacRae, *Preemption in the Fisheries and the United Nations Law of the Sea Treaty*, 4 DICK. J. INT'L L. 143, 162-64 (1986).

411. *See supra* notes 357-60 and accompanying text.

412. Myers v. United States, 272 U.S. 52, 135 (1926).

413. *See* New Jersey v. Delaware, 291 U.S. 361, 383 (1934), where Justice Cardozo points out that "international law . . . has, at times, like the common law within states, a twilight existence during which it is hardly distinguishable from morality or justice, till at length the *imprimatur* of a court attests [to] its jurist quality." *See also* Lillich, *The Proper Role of Domestic Courts in the International Legal Order*, 11 VA. J. INT'L L. 9, 12 n.17 (1970) (domestic courts must be relied upon to "perform the international function of upholding rights and duties grounded in international law").

A. *Management of Living Marine Resources*

A key aspect of a comprehensive ecosystem approach to oceans management is the establishment "of an ecosystem-wide management program for fish and other living marine resources which permits multi-species management of those resources."[414] The new international law norm must be integrated into the numerous statutes that provide for the study, protection, control, and management of living marine resources.[415]

Special statutes establish: procedures for the protection of endangered species and marine mammals and the habitats of all fisheries;[416] programs for research and development of resources;[417] and standards for management of commercial fisheries.[418] As described earlier, protection and management of these resources has been on a species-by-species basis—without regard to the interaction of species or the impact of other ocean activities on their habitat or life-cycle. This ad hoc approach is not required by federal law. Rather, the statutes that govern fisheries may be interpreted to include an ecosystem approach,[419] and since that interpretation is possible, it is now required.

The Endangered Species Act, for example, provides broad authority to protect endangered or threatened species.[420] Yet the statute has been applied so as to minimize conflict by limiting the geograph-

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414. R. Roe, *supra* note 214, at 33.

415. The former Assistant Administrator for the National Marine Fisheries Service has stated that: "In the case of living marine resources, Congress has defined the public interest in more than 106 federal laws." Leitzell, *The Federal Government Role in the Fishing Industry*, in CENTER FOR OCEAN MANAGEMENT STUDIES, THE U.S. FISHING INDUSTRY AND REGULATORY REFORM 119 (T. Hennessey ed. 1983).

The statutes that provide for conservation and management of living marine resources include the Magnuson Fisheries Conservation and Management Act, and specific laws that govern specific species, that provide for coordination with other federal programs, that provide for research and development of specific species or of specific geographic regions, and that provide for assistance to recreational and commercial fishing. *See* COMMERCE OCEAN POLICY, *supra* note 15, at app. A - Legislative Authorities for Federal Ocean Activities, at a-3 to a-7. In addition, they include more general statutes, like the National Environmental Protection Act that provide procedures to be followed in implementing fisheries programs. *See* Belsky, *The Regulatory Review Process*, in CENTER FOR OCEAN MANAGEMENT STUDIES, THE U.S. FISHING INDUSTRY AND REGULATORY REFORM, *supra*, at 8.

416. *See, e.g.*, ESA, *supra* note 94; MMPA, *supra* note 94; Fish and Wildlife Coordination Act, Pub. L. No. 85-624, 72 Stat. 566 (1958) (codified at 16 U.S.C. §§ 661-668ee (1986) (habitat protection)).

417. *See, e.g.*, State Commercial Fisheries Research and Development Act, 16 U.S.C. §§ 779-779F (1986).

418. MFCMA, *supra* note 94.

419. *See, e.g.*, COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 70-71 (MFCMA can be interpreted to consider interrelationships and comprehensive management).

420. ESA, *supra* note 94, at § 7, 16 U.S.C. § 1536 (1982); *see* Smith, *The Endangered Species Act and Biological Conservation*, 57 S. CAL. L. REV. 361, 384 (1984).

ical area preserved and focusing on the particular species to be protected, rather than looking at the ecosystem.[421] The new customary international law requirement of a comprehensive approach now mandates that such conservation must focus on the ecosystem.

Similarly, the Magnuson Fisheries Conservation and Management Act establishes an elaborate mechanism for regional councils, to propose, and the National Marine Fisheries Service (NMFS) to implement, fisheries management plans.[422] Broad discretion is given to the councils and NMFS to consider all relevant factors in developing fishery plans and regulations.[423] In addition, recent amendments also give the councils the duty to consider and include in plans information on habitats and assessment of habitat changes on fishery resources.[424] Yet, until 1987, fisheries assessment, monitoring, plans, and regulations, focused on particular species in particular regions without considering the ecosystem of that species.[425] In addition,

421. *See* Smith, *supra* note 420, at 386. This reluctance to apply the ecosystem approach is despite the expressed purpose of the Endangered Species Act "to provide a means whereby the ecosystems upon which endangered species and threatened species may be conserved." ESA, *supra* note 94, at § 2(b), 16 U.S.C. § 1531(b)d (1982).

422. *See* MFCMA, *supra* note 94. Subchapter IV of the MFCMA establishes national standards for the development of fisheries plans by regional councils, and then review and approval by the Secretary of Commerce. The power to establish interim plans and to enforce all plans is also given to the Secretary of Commerce. The Secretary has delegated responsibility for administration of the MFCMA to the National Oceanic and Atmospheric Administration, which, in turn, places its supervision within its National Marine Fisheries Service. *See* Belsky, *supra* note 415, at 9-11.

423. *See* Comment, *supra* note 226, at 155; Young, *supra* note 38, at 243. The stated goal of the MFCMA is "to conserve and manage fishery resources found off the coasts of the United States." MFCMA, *supra* note 94, at § 2; *see* Young, *supra* note 38, at 211. The national standards state that any fishery plan and regulation are to provide conservation and management measures to prevent overfishing. These measures are to be based upon the best scientific information available. While the plans and regulations are based on an "optimum yield" standard, 16 U.S.C. § 1851(1) (1982), that term is defined to mean "maximum sustainable yield . . . as modified by *any relevant* economic, social or *ecological* factor."*Id.* at § 1802(18) (emphasis added); *see* A. McEvoy, The Fisherman's Problem - Ecology and Law in the California Fisheries - 1850-1980, at 242 (1986). Even "maximum sustainable yield" is capable of an ecosystem interpretation, as it can be defined as an "upper limit of harvest which can be taken year after year without diminishing the stock so that the stock is truly inexhaustible and perpetually renewable." *See* MacRae, *supra* note 410, at 154. Finally, the Act specifically encourages an ecosystem approach, as it states that an individual stock shall be managed throughout its range and interrelated stocks of fish shall be managed as a unit in close coordination to the extent practicable. MFCMA, *supra* note 94, 16 U.S.C. § 1851(3) (1982); *see also* Magnuson, *supra* note 38, at 437.

424. 16 U.S.C.A. §§ 1852-53 (West 1982 & Supp. 1988). *See generally* Kennedy, *The 1986 Habitat Amendments to the Magnuson Act: A New Procedural Regime for Activities Affecting Fisheries Habitat*, 18 Envtl. Law. 339 (1988).

425. *See* Gordon, *supra* note 211, at 163; R. Roe, *supra* note 214, at 33-35.

fisheries plans and regulations did not consider the effects of marine pollution and conflicting resource uses on the fisheries.[426] Requiring application of the ecosystem model is not only feasible,[427] but now the acknowledged policy.[428] The NMFS and its parent agency, the National Oceanic and Atmospheric Administration, must accept their new responsibility as stewards of living marine resources and consider the relationships among resources and the impacts of exploitation and other ocean activities on the ecosystem.[429]

The application of the new international law mandate to living marine resource management is relatively straightforward. One agency can adopt the ecosystem mandate and apply it.[430] Much more difficult, but still possible, and thus mandatory, will be applying the model to other resource management and environmental protection statutes.[431]

B. Conflicting Uses and Pollution

As noted above, fisheries management did not consider the impact of other ocean uses and pollution on their plans and regulations. These uses, and the pollution that can result from them and from onshore activities, are governed by numerous statutory and regulatory provisions, implemented by many different agencies.[432] There

426. There is no provision in the MFCMA on the effects of pollution or conflicting resource uses. *See* Young, *supra* note 38, at 253. Of course, this silence is not inconsistent with an ecosystem approach. The new international law norm can fill in this "gap" and now mandate such a comprehensive approach.

427. The concept of "optimum yield" in MFCMA allows "multiple objective decision-making [in] marine fishery management, with explicit recognition of . . . ecological objectives." Rettig, *The Magnuson Fishery Conservation and Management Act: Continuing Challenges for State Governments*, in PROCEEDINGS, UNIVERSITY OF DELAWARE, CENTER FOR THE STYLE OF MARINE POLICY, COASTAL STATES ARE OCEAN STATES 14 (1987). New technology now allows remote sensing and modeling for research and management based on large ecosystems. *See* Platt & Sathyendranath, *Oceanic Primary Production: Estimation by Remote Sensing at Local and Regional Scales*, 241 SCIENCE 1613 (1988).

428. *See* Rettig, *supra* note 427, at 33-34; Ocean Sci. News, Feb. 17, 1987, at 2 (quoting William E. Evans, who at the time was the head of the National Marine Fisheries Service, and who then became the Administrator of the National Oceanic and Atmospheric Administration, as indicating that research and management of fisheries are to be based on a comprehensive approach).

429. Johnson, *supra* note 253, at 158-59.

430. The President has the power to require the Councils and NOAA to apply the ecosystem approach and can review plans and regulations to assure compliance with this new standard. *See* Steinberg, *OMB Review of Environmental Regulations: Limitations on the Courts and Congress*, 4 YALE L. & POL'Y REV. 404 (1985). *Compare* Taylor & Surprenant, *The Role of OMB in Federal Fisheries Management*, in TERRITORIAL SEA 1 (October 1983) (application of President through Executive Order of procedures to review fishery plans and regulations).

431. *See* Steele, *supra* note 322; Stelle, *supra* note 393.

432. 1983 Ocean Policy Commission, *supra* note 94, at 10-12. This problem is, of course, not unique to the United States. *See* Levy, *supra* note 246, at 329-30.

have been minimal attempts to have the laws interpreted or the regulations redrafted and implemented so as to require full consideration of the impact of these uses and the resulting pollution on the ecology. While there are numerous requirements for "consideration" of cumulative and external impacts on the marine environment,[433] or of the impact on fisheries,[434] there has been, until now, no mandate to assure that such integration occurs and thus no mechanism to provide such an integration.[435]

Such an ad hoc approach is now in violation of international law. Unless a specific statutory command bars application of the ecosystem approach to these laws and regulations, it is also now in violation of American law. No such direct inconsistency exists. Pollution and resource management statutes call for a "balancing" of interests and that "balance" must now be shifted to require the exercise of discretion to incorporate the ecosystem model.[436]

The law governing management of offshore oil and gas indicates the process that must be followed. The Outer Continental Shelf (OCS) Lands Act was amended in 1978[437] to, among other things, provide for increased environmental protection.[438] The need to protect the coastal and marine environment was to be balanced against increased energy needs.[439] Specifically, the statute: requires a leasing plan to be prepared and periodically revised that "to the maximum extent practicable . . . balance[s the] potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone";[440] requires regulations to provide for the conservation of natural resources and to allow suspension or cancellation of leases where there is "serious harm" to life

433. *See, e.g.*, NEPA, *supra* note 94, at § 102(2)(C), 42 U.S.C. § 4332(2)(C) (1986); 40 C.F.R. § 1502.16 (1987); OCSLAA, *supra* note 94, at § 25, 43 U.S.C. § 1451 (1986).

434. *See, e.g.*, Fish and Wildlife Coordination Act § 2, 16 U.S.C. § 662 (1986).

435. *See* Knecht & Kitsos, *supra* note 124, at 15.

436. *See* Massachusetts v. Andrus, 594 F.2d 872, 891 (1st Cir. 1979) (OCSLA involves balancing).

437. OCSLAA, *supra* note 94.

438. *See* Kitsos, *Federal-State Relations in the Management of Offshore Minerals: The Outer Continental Shelf Lands Act At Work*, in PROCEEDINGS, UNIVERSITY OF DELAWARE, CENTER FOR THE STUDY OF MARINE POLICY, COASTAL STATES ARE OCEAN STATES 71-72 (1987).

439. OCSLAA, *supra* note 94, at § 102(2), 43 U.S.C. § 1802(2) (1986); *see* Hoagland, *Federal Ocean Resource Management: Interagency Conflict and the Need for a Balanced Approach to Resource Management*, 3 VA. J. NAT. RESOURCES L. 1, 21 (1983).

440. OCSLA, *supra* note 55, § 18(a)(3).

(including fish) or to the marine, coastal or human environment;[441] and allows for restrictions of development and production when necessary for the protection of the "human, coastal, or marine environment."[442] It also requires all leasing, exploration, and development to be consistent with the leasing plan and environmental and other regulations.[443]

This balancing process assumed that comments from other federal agencies, state and local governments, and private parties as to the impact of exploration and development would be taken into account in the leasing policy and program.[444] It should also assume that the requirements of other statutes will be integrated into the decision-making process.[445]

The OCS leasing policy is an example of the inadequacy of previous attempts to develop a national oceans policy. The Department of the Interior is responsible for OCS leasing.[446] While it must "consider" the comments of others and the impact of the requirements of the governing statute and other laws,[447] the Department does not adopt a comprehensive approach to consider the impact of leasing on the whole ecosystem involved.[448]

Other agencies—with specific responsibilities to protect fisheries, habitats, and the marine environment—and interested parties, may seek to convince the Department of Interior, but there is no mechanism to force the Department to take an ecosystem approach.[449] Un-

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441. *Id.* at § 5(a).

442. *Id.* at § 25(h).

443. *Id.* at §§ 18(d)(3), 11(b), 25(h).

444. *See* Murphy & Belsky, *supra* note 52, at 311; Hoagland, *supra* note 439, at 21. As one commentator has noted:

> The OCSLAA does not mandate exploitation of oil and gas resources at the expense of other important resources. The Secretary of Interior's power to enter into oil and gas leases is discretionary. The Secretary may withhold from leasing those areas in which offshore drilling operations would not be in the public interest because they are too dangerous to the marine environment.

Jones, *Harvesting the Ocean's Resources: Oil or Fish?*, 60 So. CAL. L. REV. 585, 646 (1987).

445. For a description of the major statutes affecting the OCS leasing policy and program, see Vass, *A Comparison of American and British Offshore Oil Development During the Reagan and Thatcher Administrations*, 21 TULSA L.J. 23, 39-43 (1985).

446. OCSLA, *supra* note 55, at § 2(b), 43 U.S.C. § 1331(b) (1982).

447. *See, e.g.*, Massachusetts v. Andrus, 594 F.2d 872, 887-88 (1st Cir. 1979) (fisheries); OCSLAA, *supra* note 94, at § 18, 43 U.S.C. § 1334 (1982) (leasing program); *id.* at § 19, 43 U.S.C. § 1345 (1982) (coordination with state and local governments); *id.* at § 25, 43 U.S.C. § 1351 (1982) (development); Murphy & Belsky, *supra* note 52, at 316-18.

In addition to the OCSLAA, other statutes, like NEPA, the MFCMA, and the Fish and Wildlife Coordination Act, provide for comments by affected citizens and federal agencies as to the impact of oil and gas development on fisheries and the environment, and the appropriate balance to be set. *See* Kennedy, *supra* note 424, at 343; Hoagland, *supra* note 439, at 20-21.

448. *See* Hoagland, *supra* note 439, at 8, 10.

449. *See* Massachusetts v. Andrus, 594 F.2d 872, 886 (1st Cir. 1979). There is, in

less a specific mandate is given to exclude a particular area from leasing,[450] the Department of the Interior feels free to disregard the comments of outsiders, including other agencies.[451] The courts have been unwilling, based on their interpretation of the applicable statutes, to force such a comprehensive approach.[452] In fact, the Secretary of the Interior and the courts have applied the OCS "balancing requirement" as a mandate for expedited offshore leasing and exploitation.[453] Inadequate consideration has been given to the impact on offshore habitats and the quality of the coastal and marine environment.[454] The standard established is that of "unreasonable risk to the fisheries" and environment.[455]

The new customary rule mandating an ecosystem approach changes the calculus. The federal agencies involved must take a comprehensive look at all activities including offshore oil and gas exploitation. If they fail to develop a method to do so, then the courts, when faced with a challenge to a lease or exploration and development, must apply the ecosystem standard and mandate such coordination.[456] "Unreasonable risk" is no longer the test. The new requirement is for an appropriate balancing that preserves the present and future ecosystem.[457]

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effect, no "interagency balancing." Hoagland, *supra* note 439, at 32.

450. One attempt to force an ecosystem approach, although in a limited geographic area, is the provision of MPRSA, *supra* note 94, that allows NOAA to designate marine sanctuaries. 16 U.S.C. § 1432 (1986). This provision however, is seldom used to, in effect, "carve out" an area from OCS development in order to protect the ecosystem. *See* Hoagland, *supra* note 439, at 23-32.

451. *See* Norse, *Marine Pollution and the Reagan Administration's Oil and Gas Program*, in ENVIRONMENTAL LAW, QUARTERLY NEWSLETTER OF ABA COMMITTEE ON ENVIRONMENTAL LAW 2-3 (Spring 1983).

452. *See, e.g.*, California v. Watt, 712 F.2d 584 (D.C. Cir. 1983) (five year leasing program); Conservation Law Found. v. Andus, 623 F.2d 712 (1st Cir. 1979) (Georges Bank lease sale); *see also* Comment, *The Seaweed Rebellion Revisited: Continuing Federal-State Conflict in OCS Oil and Gas Leasing*, 20 WILLAMETTE L. REV. 83, 104-05 (1984) (deference to Secretary of Interior).

453. *See* Vass, *supra* note 445, at 58; Jones, *Major Issues In Developing Alaska's Outer Continental Shelf Oil and Gas Resources*, 1 ALASKA L. REV. 209, 210-11 (1984); *see also* Secretary of the Interior v. California, 464 U.S. 312, 336 (1984); California v. Watt, 712 F.2d 584 (D.C. Cir. 1983).

454. *See* Jones, *supra* note 444, at 619-23.

455. *See* Massachusetts v. Andrus, 594 F.2d 872, 889 (1st Cir. 1979); *see also* Jarman, *The Public Trust Doctrine in the Exclusive Economic Zone*, 65 OR. L. REV. 1, 29 (1986).

456. Lawsuits are presently pending challenging the Department of Interior's newest revision of its leasing program. No issue was raised, however, as to the application of the new customary international law rule mandating the ecosystem approach. *See* COASTAL ZONE MGMT., Sept. 20, 1988, at 1-4; Ocean Sci. News, Oct. 5, 1988, at 5-8.

457. One commentator describes the process of integrating all ecosystem values

The law governing other activities, like coastal discharges, ocean dumping, and vessel pollution, must also go through a similar reinterpretation.[458] The Marine Protection, Research and Sanctuaries Act, for example, provides the standards for ocean dumping.[459] It states that its purpose is to limit the dumping of materials that "adversely affect human health . . . the marine environment, ecological systems, or economic potentialities."[460] The regulatory mandate is broad and subject to interpretation.[461] The new rule of ecosystem management requires that regulations and permits issued pursuant to those regulations, consider the effects of and need for ocean dumping before allowing such dumping to occur.[462] The courts are to review the regulations and permits and apply the ecosystem model. As with offshore oil and gas exploitation, legislative language that limits discharges that "unreasonably degrade" the environment[463] must be reinterpreted to recognize the cumulative and comprehensive impact of discharges on the ecosystem.[464] Rather than allowing

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into the OCS leasing process as similar to the "public trust" obligations of the federal government for other areas. *See* Jarman, *supra* note 455, at 29-32.

458. Land use in the coastal zone is generally governed by individual state law, and by the federal Coastal Zone Management Act for those states that have adopted approved coastal zone plans. *See infra* notes 489-98 and accompanying text. Pollution from coastal discharges, therefore, is a result of individual state coastal land use laws and policies, and the water quality requirements under the Federal Water Pollution Control Act. FWPCA, *supra* note 94, at § 301, 33 U.S.C. § 1311 (1982) (regulations for discharge of pollutants); *id.* at § 402, 33 U.S.C. § 1342 (1982) (provision for permits of discharges); *id.* at § 404, 33 U.S.C. § 1344 (1982) (dredge and fill permit system); *see* Crown Simpson Pulp Co. v. Costle, 445 U.S. 193 (1980). State laws and the FWPCA must now be interpreted to require an ecosystem approach when regulations are promulgated, and permits are issued, for actions that could affect the marine ecosystem. For a discussion of the problem of coastal pollution, see COASTAL ZONE MGMT., Sept. 30, 1988, at 1-4 (reporting on Congressional hearings).

459. MPRSA, *supra* note 94, at §§ 101-205, 33 U.S.C. §§ 1401-45 (1986); *see* Comment, *supra* note 394, at 171.

460. MPRSA, *supra* note 94, at § 2(b), 33 U.S.C. § 1401(b) (1986).

461. For example, the EPA at one time did not interpret the MPRSA to allow it to regulate airborne pollutants and ocean incineration. Later, it interpreted the law to allow such regulation. Comment, *supra* note 394, at 172.

462. *See id.* at 187-88.

463. The MPRSA, as amended, 33 U.S.C. § 1412(a) (1986), precludes the dumping of sewage sludge and industrial waste as of December 31, 1981. Sewage sludge and industrial wastes are defined, however, to mean waste "the ocean dumping of which may unreasonably degrade or endanger human health . . . or the marine environment, [or] ecological systems." 33 U.S.C. § 1412a(d) (1986).

464. In *City of New York v. EPA*, 543 F. Supp. 1084 (S.D.N.Y. 1981), the court interpreted the ban on ocean dumping of municipal wastes and sludge as not barring New York from continuing to dump, as it was not shown that such dumping "unreasonably degrades the environment." The court stated that EPA was to "balance" ocean dumping needs and harms. As a result, EPA eased its standards for ocean dumping. *See* F. ANDERSON, D. MANDELKER & A. TARLOCK, ENVIRONMENTAL PROTECTION 426 (1984); Swanson & Devine, *The Pendulum Swings Again: Ocean Dumping Policy*, 24 ENVIRONMENT 14-15 (June 1982). This weighing now would have to include the ecosystem model's mandate of a comprehensive and cumulative approach to all ocean pollution and its interactive effect on the present and future living resources in that ecosystem.

ocean dumping to continue until proven to be harmful, it should be stopped until shown not to be harmful to the environment, including living marine resources and their habitats.[465]

C. Research, Assessment, and Monitoring

As described earlier, the ecosystem model includes two aspects. First, it mandates that management of the ocean consider and integrate pollution control and resource protection and exploitation. Second, it requires that actions taken in response to the model be based on adequate research, assessment, and monitoring. Like the mandate for comprehensive management, the requirement of adequate support for ecosystem science is part of American law, and statutes that provide for funding and research must now be interpreted so as to provide for this "ocean information policy."[466]

The triggering mechanism for implementing this mandate can be the National Environmental Policy Act (NEPA) and the National Ocean Pollution Planning Act (NOPPA). NOPPA requires compilation of all government research, assessment, and monitoring programs, and the preparation, submission, and biennial revision of a federal pollution plan identifying national needs and establishing priorities for government action.[467] It also requires appropriate coordinated action to assure that the budgets of all federal agencies are in accord with the plan.[468] Finally, it requires that the plan contain recommendations for changes in the overall federal ocean effort—both goals and funding.[469] While NOPPA has led to reports on actions and descriptions of priorities,[470] it must now be interpreted to be an "action-forcing" mechanism to require review of federal programs in light of the new science mandate. It is also the mechanism to force the setting of priorities in terms of the comprehensive ecosystem re-

465. *See* COASTAL ZONE MGMT., Aug. 20, 1988, at 4. On October 19, 1988, Congress enacted changes to the MPRSA, setting a deadline of December 31, 1991 for the end of all ocean dumping of sludge. Enforcement will be by an escalating schedule of fees and fines. CONG. Q., Oct. 22, 1988, at 3061-62.

466. *See* Creech, *supra* note 325, at 16. For a description of the information requirements detailed in UNCLOS, see *id.* at 22; *see also* INSIGHT, June 27, 1988, at 22 (call for action by the federal government to establish a Bureau of Environmental Statistics that would provide annual reporting on environmental information and thus make it easier to obtain adequate funding for necessary research).

467. NOPPA, *supra* note 200, at § 4, 33 U.S.C. § 1703 (1986).

468. *Id.* at § 4(b)(4), 33 U.S.C. § 1703(b)(4) (1986).

469. *Id.* at § 4(b)(3), 33 U.S.C. § 1703(b)(3)(1986).

470. *See* 1981 POLLUTION PLAN, *supra* note 103.

quirement for adequate research, assessment, and monitoring.[471]

While NOPPA can be used to provide for an overall plan of action, NEPA can be used to force individual actions to be responsive to the new international law mandate. NEPA requires that federal agencies adopt an "integrated" approach to planning and decisionmaking and include in every recommendation and report for "major federal actions" a detailed environmental impact statement that describes adverse environmental effects.[472] This requirement should now be interpreted to require federal actions that impact the marine environment to include an assessment of the consistency of that action with the ecosystem model, and whether there is sufficient information available to indicate that consistency or inconsistency.[473]

Application of the new ecosystem research, assessment, and monitoring requirements should also be read into the various statutes that provide for individual agencies to conduct research.[474] For example, Section 20 of the Outer Continental Shelf Lands Act requires that the Department of Interior conduct studies to "establish information for assessment and management of environmental impacts" prior to lease sales, and then additional studies to monitor the impact of activities on the environment. All relevant information collected shall be considered by the Secretary in making all decisions.[475] This provision should now be read to require an ecosystem approach to such information collection and also to require the Department to adequately fund such research, assessment, and monitoring.[476]

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471. In the past, development of the plan and the setting of research and funding priorities, has been reactive. While regional meetings are held to identify science priorities, and recommendations are made by a National Ocean Pollution Planning Office, each agency sent in a list of actions and budget line items and then these were organized into a plan. The Office of Management and Budget reviewed the plan in terms of its own agenda. No real attempt was made to use the requirements of the National Ocean Pollution Planning Act to force federal agencies and then the Office of Management and Budget to address the national needs for comprehensive research, assessment, and monitoring. *See NOPPA 1982 Hearings*, *supra* note 204, at 29-39.

472. NEPA, *supra* note 94, at § 102, 42 U.S.C. § 4332 (1986).

473. *See United Nations Environment Programme, Report of the Working Group of Experts on Environmental Law on its Second Session on Environmental Impact Assessment*, UNEP.WG.152/4 (1987) (establishing goals and principles for environmental impact assessment); *see also* Council on Ocean Law, OCEANS POL'Y NEWS, Mar. 1987, at 2-3 (describing work of UNEP in setting environmental assessment standards).

474. Many federal agencies have authorization to conduct ocean-related research, assessment, and monitoring. Some statutes, like the OCSLA, provide direct authorization for such research. Other statutes, while not authorizing a specific research task, provide general authority to conduct or support programs and activities related to resource management or ocean pollution. *See* National Marine Pollution Program—Agency Summaries—FY 1982 Update, Appendix to 1981 POLLUTION PLAN, *supra* note 103, app. no. 1, at II-263 (NOAA's Legislative Mandate).

475. OCSLAA, *supra* note 94, 43 U.S.C. § 1346 (1986).

476. This interpretation is perfectly consistent with the statute. In fact, the goal of the OCSLAA Amendments of 1978 was to require adequate science as a basis for decisions. *See* Outer Continental Shelf Lands Acts Amendments of 1977, H.R. REP. No. 95-

Similarly, the Magnuson Fishery Conservation and Management Act (MFCMA) requires the Secretary of Commerce to "initiate and maintain a comprehensive program of fishery research to carry out and further the purposes, policy and provisions of the [Act]." The research is to include basic science, assessment, and monitoring, and to consider the interdependence of fisheries and the impact of pollution.[477] This mandate can and should be interpreted to require an ecosystem approach to research and adequate assessment and monitoring to insure implementation of that approach.[478]

D. Coastal Activities and Uses

The ecosystem approach, of course, is not only applicable to federal activities and activities authorized by federal permits or licenses. As binding national law, it is applicable to state laws, policies, and programs that impact the coasts and oceans. For example, the ecosystem requirement also applies to management of state fisheries. Through the 1953 Submerged Lands Act,[479] the states are given the authority to manage the fisheries in three-mile (and in some cases three marine league) zones adjacent to their coasts.[480] The MFCMA provides that the federal government is to be responsible for fisheries outside of this "coastal zone" adjacent to the state. Each coastal zone is generally still responsible for managing the fisheries in its three-mile zone.[481]

As described above, federal law, including customary international law, preempts any inconsistent state law. Fisheries are a valid "national concern" and under federal constitutional law, they are an aspect of "interstate commerce" and thus able to be regulated by the federal government.[482] Thus, federal law can preempt state laws where those laws interfere with a national plan for fishery regulation premised on the national control of interstate commerce.[483]

590, 95th Cong., 1st Sess. 154-55 (1977). The statute itself mandates periodic reports on the "cumulative" impact of activities on the ocean environment. OCSLAA, *supra* note 94, at § 20(3), 43 U.S.C. § 1347(e) (1982).

477. MFCMA, *supra* note 94, at § 304(e), 16 U.S.C. § 1854(e) (1986).

478. *See* Ocean Sci. News, Feb. 17, 1987, at 1-2 (then Director of National Marine Fisheries Service and later Administrator of NOAA describes plans for comprehensive and ecosystem approach to research and management).

479. Submerged Lands Act, Pub. L. No. 83-31, 67 Stat. 29 (1953) (codified at 43 U.S.C. §§ 1301-15 (1986)).

480. *Id.* at § 3, 43 U.S.C. § 1303 (1986).

481. *See* MFCMA, *supra* note 94, at § 101, 16 U.S.C. § 1811 (1986).

482. *See* MacRae, *supra* note 410, at 152.

483. *See* Skiriotes v. Florida, 313 U.S. 69 (1941); *see also* Comment, *supra* note

The MFCMA allows the federal government to force states to work together and to work with the federal government in developing fishery management schemes or be preempted by federal plans and regulations.[484] Provisions of the MFCMA that purport not to affect state jurisdiction and control over fisheries in the three-mile adjacent coastal zone, and to allow state regulation of state registered fishing vessels must now be read in conjunction with the new federal requirement of ecosystem management.[485] These provisions allow state authority and state registration of vessels "except as provided in subsection (b)." Subsection (b),[486] however, gives the federal government the power to regulate where there is a "substantial" and "adverse effect" of state action or inaction on fishery management plans (FMPs). The MFCMA must now be interpreted to include an ecosystem approach and thus FMPs must now be developed on an ecosystem basis.

A comprehensive ecosystem approach must include those resources in the coastal zone adjacent to the states, as well as those in the remaining portion of the exclusive economic zone.[487] Thus, the federal government can require the states to cooperate in an ecosystem approach or preempt state laws and thus mandate an ecosystem approach in coastal fisheries.[488]

Other federal statutes confirm the state's obligation to apply the ecosystem approach in their coastal zone.[489] For example, a specific priority of the Federal Coastal Zone Management Act (CZMA) is to provide for a comprehensive, coordinated approach for the protection of the coastal environment and resources[490]—in effect, an

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26, at 317.

484. *See* Rettig, *supra* note 427, at 23-24; R. Roe, *supra* note 214, at 36.

485. *See* MFCMA, *supra* note 94, at § 306(a), 16 U.S.C. § 1856(a) (1982); *see also* Comment, *supra* note 26.

486. MFCMA, *supra* note 94, at § 306(b), 16 U.S.C. § 1856(b) (1986).

487. *See* MacRae, *supra* note 410, at 163-65.

488. *See id.* at 165; *see also* Maine v. Kreps, 563 F.2d 1043, 1049 (1st Cir. 1977) (one of goals of MFCMA was to support efforts by federal government "to obtain an internationally acceptable treaty at the [LOS Conference]").

489. With the establishment by UNCLOS of a 200-mile exclusive economic zone and an expanded territorial sea of 12 miles, some commentators have called for revision of the Submerged Lands Act and other statutes to give more authority to the states in a wider (12 mile) coastal zone. *See* Knecht & Westermeyer, *State v. National Interests in an Expanded Territorial Sea*, 11 COASTAL ZONE MGMT. J. 317, 318-19 (1984). Others have argued that the expanded zones should not lead to a larger state coastal zone, but increased federal-state cooperation in "an effective ocean management partnership." *See* Shapiro & Shapiro, *Opportunities for a State-Federal Partnership in an Expanded Territorial Sea*, 11 COASTAL ZONE MGMT. J. 335, 350 (1984). In any event, whether the states have responsibility for an expanded zone or share responsibility for such zone, the ecosystem model, as binding federal law, must be the premise for any action.

490. CZMA, *supra* note 94, at §§ 302-303, 16 U.S.C. §§ 1451-52 (1982); *see* Comment, *supra* note 452, at 89; COMMERCE OCEAN MANAGEMENT, *supra* note 16, at 75.

ecosystem model.[491] The CZMA was designed to "preserve, protect and develop and, where possible, to restore or enhance the resources of the Nation's coastal zone."[492] It does this through a detailed program of approving state plans for coastal management, supplying federal funding for the preparation and implementation of that plan, and then requiring consistency of federal activities with that plan.[493]

At this point, almost all coastal states have approved Coastal Zone Management plans which govern their laws and policies for their coastal zones.[494] These state plans must be in accord with national policies and laws.[495] Included within these national policies and laws are CZMA requirements for protection of the resources and environment of the coastal zone, consideration of ecological values, and comprehensive planning for resource and pollution control management.[496] These requirements must now be interpreted to mandate an ecosystem approach to coastal planning, research, and management. Failure to comply with this mandate by the states should lead to federal withdrawal of approval of a plan and funding for the state program.[497]

Of course, even if a state does not have an approved coastal plan, or refuses to comply with the new ecosystem standard and loses approval of its program, it is still bound by supreme federal law to apply the ecosystem model.[498]

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491. *See* Evans, *The Coastal Zone Management Experience as a Model for Collaborative Resource Management*, in PROCEEDINGS, TEXAS A & M UNIVERSITY, NATIONAL CONFERENCE ON THE STATES AND AN EXTENDED TERRITORIAL SEA, Dec. 9-11, 1985, at 101-02 (1987) (collaborative planning process).

492. CZMA, *supra* note 94, at § 303, 16 U.S.C. § 1452 (1986).

493. For short descriptions of the mechanics of the CZMA, see Grasso, *Federal Offshore Leasing: States' Concerns Fall on Deaf Ears*, 2 FLA. J. LAND USE & ENVTL. L. 249, 252-55 (1986); Comment, *supra* note 452, at 88-91.

494. *See* Evans, *supra* note 491, at 102.

495. For example, the CZMA provides that plans must provide for "adequate consideration of the national interest involved in" energy facility siting. CZMA, *supra* note 94, at § 306(c)(8), 16 U.S.C. § 1455(c)(8) (1982). Approval of a plan, and evaluation of the plan, and possible withdrawal of approval are to be based on the state's compliance with national policies. *Id.* at § 312, 16 U.S.C. § 1458 (1986).

496. *Id.* at § 303, 16 U.S.C. § 1452 (1986).

497. The CZMA requires a federal review of state performance as being in accord with the standards established by the act and then withdrawal of approval and funding if a state fails to comply with new federal requirements for a plan. *Id.* at § 312, 16 U.S.C. § 1458 (1986).

498. The supremacy clause of the Constitution mandates that state laws or policies will be preempted if inconsistent with federal law, including customary international law. *See supra* notes 361-62 and accompanying text; *see also* Lutz, *Interstate Environmental Law: Federalism Bordering on Neglect?*, 13 SW. U.L. REV. 573, 577-83 (1983).

E. Bilateral and Multilateral Agreements

In addition to the obligations of the United States to develop mechanisms to coordinate and establish a national oceans policy, there is also an obligation to apply this policy in international relations. The United States negotiates fisheries treaties, resource treaties, and pollution agreements.[499] In such negotiations, the President and his representatives in the State Department and other agencies have an obligation to promote American policy and law.[500] That policy and law must be now premised on the ecosystem model.

In future negotiations on fisheries, nonliving resource management, and pollution, federal officials must now explicitly urge that other nations accept the new customary international law rule and incorporate a comprehensive model into research into the ocean ecology, and assessment and monitoring of impacts of activities on the ocean.[501] In developing joint arrangements for management of resources and for the setting and enforcement of standards to control marine pollution, the United States must urge that an ad hoc, species-by-species and pollutant-by-pollutant approach is inconsistent with international law.[502]

VIII. CONCLUSION

There have been increasing public calls for a revitalized policy to protect our ocean space.[503] The ecosystem model is designed to set that new policy. The reconciliation of present ocean statutes and policies into a comprehensive ecosystem approach will not be easy. As described in the first part of this article, there have been numerous attempts to force the federal government to adopt a comprehensive national oceans policy. All have failed. However, until now there has not been a mechanism to force the Executive to establish coordinating mechanisms, either in the White House or Office of Management and Budget. Now such a vehicle exists.

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499. *See, e.g.*, Comment, *supra* note 226, at 158 nn.53, 54 (listing fisheries treaties); Comment, *supra* note 284, at 109 (pollution treaty with Mexico); Laughlin, *supra* note 298 (Antarctica).

500. *See supra* note 365 and accompanying text.

501. *See supra* notes 320-42 and accompanying text.

502. *See* UNCLOS, *supra* note 17, at arts. 192, 193 (obligation to protect and preserve marine environment and to exploit resources in accordance with that obligation), 117, 118 (conservation and management of living resources); *see also id.* at arts. 194(5) (protection of fragile and rare ecosystems), 197 (cooperation for protection of the marine environment), 204 (assessment and monitoring), 207(4) (cooperation to develop rules for control of land-based pollution), 210 (control of pollution from dumping), 211 (control of pollution from vessels).

503. *See* Editorial, BUSINESS WEEK, Oct. 12, 1987, at 190; Toufexis, *The Dirty Seas*, TIME, Aug. 1, 1988, at 44; Morganthau, *Don't Go Near the Water*, NEWSWEEK, Aug. 1, 1988, at 42.

The various federal agencies must adopt a comprehensive ecosystem approach as they interpret and apply their various statutory mandates. Congress has the responsibility to oversee these agencies and to force them to accept their new duty. Alternatively, Congress could elect to give them the authority, by superseding legislation, to disregard the comprehensive approach, but if it did so, the United States would be in violation of international law. Unless and until the Congress repeals the ecosystem mandate by future statutes, the courts have the authority and responsibility to listen to challenges to regulatory actions and policies, and either interpret statutory mandates in light of the new international law doctrines, or order agencies to do so.[504]

The President, and his delegates, obviously do not wish the courts to interfere in the implementation of domestic law. Nor do they wish Congress to overrule their recently established "oceans policy" which they are seeking to have other nations accept. The strategy should be to preempt such actions and establish some method or structure to have the comprehensive ecosystem model incorporated into regulatory policy and actions.[505] Establishment of these mechanisms and then implementation of the comprehensive approach could mean a viable national oceans policy, based on an integrating theme. Failure to do so will lead to litigation and the needless and detrimental delay of the inevitable implementation of a national oceans policy premised on the comprehensive ecosystem model.

504. *See* Steinberg, *supra* note 430, at 424-25 (summarizing the power: of the courts to enforce the law; of the Congress to oversee implementation of the laws; and of the Executive Branch, through an arm like the Office of Management and Budget, to coordinate federal decision-making).

505. One commentator has noted that to have an "ocean decision framework" one federal agency should have "plenary responsibility that can provide a forum for integrating the preferences of many special purpose agencies and interests." Hershman, *The Coastal Decision-Making Framework as a Model for Ocean Management*, in PROCEEDINGS, TEXAS A & M UNIVERSITY, NATIONAL CONFERENCE ON THE STATES AND AN EXTENDED TERRITORIAL SEA, Dec. 9-11, 1985, at 92 (1987).